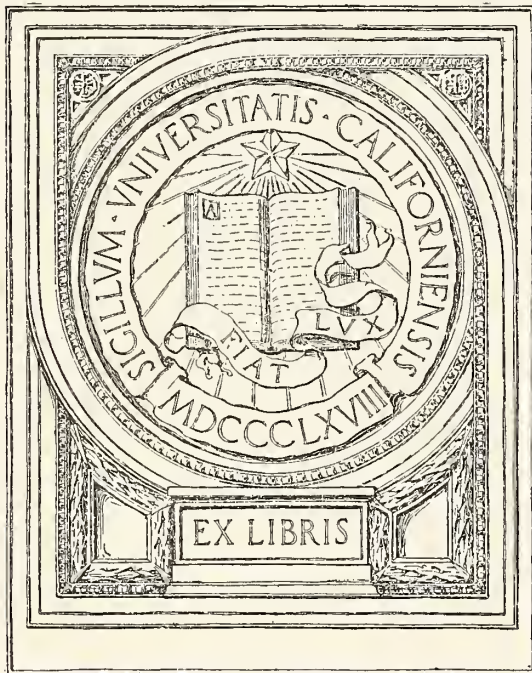
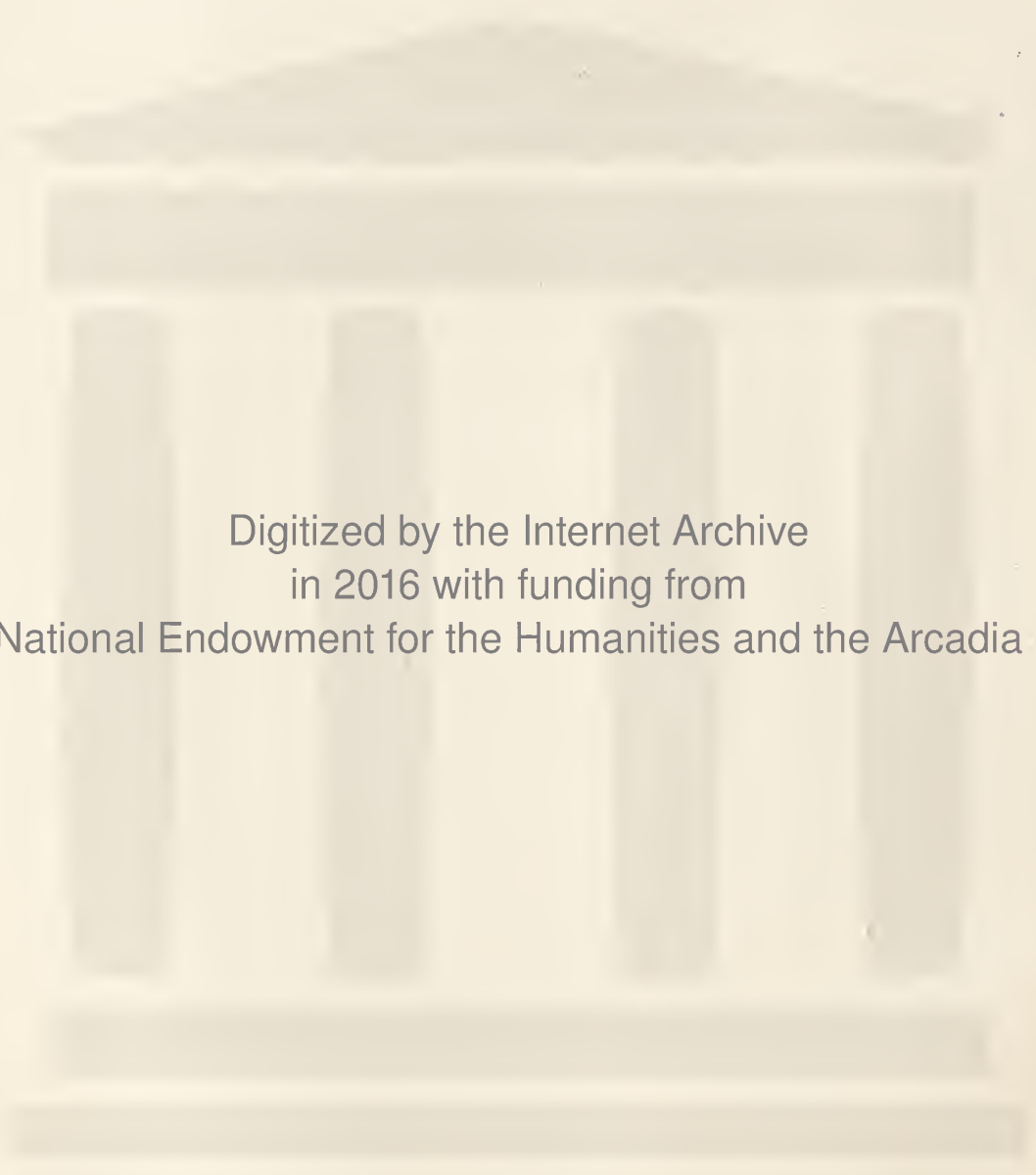


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The Journal of the Iowa State Medical Society

INDEX

Volume XI, January to December

1921

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INDEX

1921

	PAGE
Acidosis, an explanation of condition, Thomas Byrnes.....	257
Acne, some suggestions in treatment, J. F. Auner.....	171
Address of President, Donald Macrae, Jr.....	227
American medicine, A. O. Williams.....	91
Analysis of first one hundred admissions to Iowa State Psychopathic Hospital, Lawson G. Lowrey.....	453
Anemia, diet for pernicious, R. L. Fenlon.....	50
Appendicitis in children, acute, Guy T. McCauliff.....	205
Arteriosclerosis, cerebral, Frank A. Ely.....	195
Arthritis with special reference to end results, treatment chronic, Walter L. Bierring.....	430

AUTHORS—

Albright, G. C.....	38
Allen, Bundy.....	379
Allen, E. D.....	300
Allen, W. L.....	159
Auner, J. F.....	171
Bamford, E. E.....	167
Barker, Lewellys F.....	113
Bierring, W. L.....	430
Binnie, J. F.....	165
Brown, H. M.....	189
Burcham, T. A.....	250
Byrnes, T.....	257
Cabot, Hugh.....	1
Call, M. B.....	355
Carr, James G.....	472
Cumming, H. S.....	17
Cushing, Harvey.....	337, 385, 426
Davis, A. C.....	310
Davis, E. G.....	315
Decker, H. M.....	11
Dodd, J. M.....	93
Ely, F. A.....	195
Erskine, A. W.....	203
Fairchild, Sr., D. S.....	127, 400
Fenlon, R. L.....	50, 437
Fuller, F. M.....	173
Gerard, W. v. M.....	319
Gittens, T. R.....	84
Haan, W. G.....	19
Hancock, J. C.....	236
Harkness, G. F.....	357
Holbrook, F. R.....	382
Ivins, H. M.....	201
James, C. S.....	254
Johnston, W. H.....	342
Krause, C. S.....	47
Lamb, F. H.....	244
Langworthy, H. G.....	321
Leonard, F. S.....	97
Lowrey, Lawson G.....	453
McCauliff, G. T.....	205
McCrea, E. S.....	165
Macrae, Jr., Donald.....	227, 394
Maiden, S. D.....	8
Mallory, M.....	304

	PAGE
Marker, J. I.....	352
May, G. A.....	346
Mayo, C. H.....	297
Meis, E. W.....	81
Morrison, O. C.....	234
Myers, J. W.....	433
Noble, N. S.....	44
Osborne, F. J.....	161
Osgood, Robert B.....	462
Pond, A. M.....	75
Reed, C. A. L.....	344
Rendleman, W. H.....	352
Ross, W. H.....	207
Ruth, C. E.....	121, 434
Sallender, F. W.....	199
Sanders, W. E.....	375
Schilling, N.....	14
Scruby, L. M.....	139
Shuman, J. W.....	89
Snodgrass, T. J.....	212
Steindler, Arthur.....	33
Studebaker, J. F.....	350
Taylor, C. B.....	417
Thompson, H. E.....	356
Throckmorton, Tom B.....	479
Treynor, V. L.....	307
Van Epps, C. E.....	421
Whalen, C. J.....	153
Williams, A. O.....	91

Blood pressure, practical points, Eppie S. McCrea.....	165
--	-----

BOOK REVIEWS—

American Journal Medical Sciences..... (Adv. p. xx, April)	
American Red Cross in Italy, Story of.....	187
American Red Cross Work among the French People....	492
American Year Book of Anesthesia and Analgesia.....	335
Chemistry, Creative..... (Adv. p. xviii, May)	
Chemistry, Laboratory Manual of Physiological, (Adv. p. xx, April)	
Children, Diseases of.....	32
Clinic, 1919, Mayo.....	108
Clinics of Chicago, Surgical.....	74, 188, 293
Clinics, International..... (Adv. p. xviii, Feb.)	
Clinics of North America, Medical, 32, 187, 292, 374, (Adv. p. xviii, April)	
Communicable Diseases, Hygiene.....	293
Council of Pharmacy and Chemistry, Report of.....	293
Diabetic Patients, Primer for..... (Adv. p. xvi, Dec.)	
Dietetics with Reference to Diet in Health and Disease, (Adv. p. xviii, May)	
Electro-Therapy, Handbook of.....	492
Endocrines, The.....	186
Exophthalmic Goitre and its Treatment, (Adv. p. xviii, Jan.)	
Fractures in General, Industrial and Military Practice, Treatise.....	452
Gynecology.....	291

	PAGE
Gynecology, Operative.....	72
Health, Short Talks on Personal and Community.....	187
Hygiene, Communicable Diseases.....	293
Hygiene, Dental and General.....	32
Immunology, Principles of.....	451
Infants and Childrens, Care and Feeding.....	74
Massage and Corrective Exercise with Applied Anatomy, Practical	187
Massage and Exercise Combined.....	31
Maternitas	188
Mayo Clinic, 1919, Collected Papers of.....	108
Medicine, Text-Book Practice of.....(Adv. p. xvi, June)	
Metabolic Rate Determinations, Manual of the Technic Basal	(Adv. p. xvi, March)
Nervous System from Standpoint of Development and Function, Anatomy of.....	296
Nitrous Oxide-Oxygen Analgesia and Anesthesia in Normal Labor and Operative Obstetrics.....	336
Nursing, A Short History of from Earliest Time to Present	73
Keen's Surgery	294
Pathology, Chemical.....(Adv. p. xvi, March)	
Pathology, Manual of.....(Adv. p. xvi, March)	
Pathology, Text-book.....	292, 452
Parasitology, Human.....	72
Pharmacodynamics, Laboratory Manual of Pharmacology, Materia Medica, Pharmacopedics and (Adv. p. xvi, June)	
Physical Fitness, Assessment of.....	491
Physiology and Biochemistry in Modern Medicine.....	73
Practice of Medicine.....	492
Psychology and Psychiatry, Practical.....	373
Psychopathology	(Adv. p. xvi, May)
Preventive Medicine, Practical.....	188
Public Health Service, United States, Annual Report Surgeon General.....	336
Radiography in Examination of Liver, Gall-Bladder and Bile Ducts.....	72
Refraction and Motility of the Eye.....	296
Respiratory Disease, Epidemic.....	335
Roentgen Diagnosis Diseases of the Alimentary Canal....	295
Roentgen Interpretation.....	491
Sternberg, George Miller, Biography of.....	74
Surgery, Clinical, by Case Histories....(Adv. p. xxviii, Dec.)	
Surgery, its Principles and Practice.....	490
Surgery for Students and Practitioners, Operative.....	450
Surgery, Traumatic.....	373
Survey of Cripples in New York City.....	336
Technic, Diagnostic and Therapeutic.....	373
Therapeutics, Principles of.....	491
Transactions of the College of Physicians of Philadelphia	373
Tuberculosis Case Histories, Pulmonary.....	296
Tuberculosis of Children, its Diagnosis and Treatment, (Adv. p. xvi, Dec.)	
Tuberculosis, Practical.....(Adv. p. xvi, Dec.)	
Tuberculosis, Rational Treatment Pulmonary.....	451
University of Iowa Studies.....(Adv. p. xviii, January)	
Wassermann Test.....	451
Workmen's Compensation Service, Report of.....	492
X-Ray Observation for Foreign Bodies and Their Local- ization	72
Brain injuries, A. M. Pond.....	75
Cancer, medical journals and the campaign against, F. J. Osborne	161
Cardio-spasm with enormous dilatation of the esophagus, re- port of case, T. J. Snodgrass.....	212
Cardio-vascular disease, therapy, Vernon L. Treynor.....	307
Cardio-vascular system, symposium on.....	300-315
Case history, O. C. Morrison.....	234
Cervical sympathetic, lesions of, Tom Bentley Throckmorton..	479
Cholelithiasis, F. S. Leonard.....	97
Correlation, the final, summary symposium, Charles S. James..	254

	PAGE
Detachment of adherent placenta and delivery in abortion, C. E. Ruth.....	431
Diagnosis, the making of, W. E. Sanders.....	375
Digitalis, the use of, James G. Carr.....	472
EDITORIALS—	
Accidents on Chicago & Northwestern Railway.....	216
American college of surgeons and clinical medicine.....	483
American editors' association.....	263
American medical association, increase in dues.....	55
American public health association.....	407
American Red Cross.....	103
Anti-vivisection bill in California.....	148
Austrian medical families, distress among.....	148
Absorption from the urinary bladder into the blood stream	146
Barium sulphate in radiography.....	23
Bierring, Dr. Walter L., honored.....	482
Bowdoin medical college.....	326
Brachial birth palsy.....	23
British medical editors, honors to.....	159
Burdick, Dr. Alfred S.....	482
Chiropactors' bill, the.....	180
Clinic, university annual alumni.....	100
Community hospitals, a plan for.....	148
Communities without a physician.....	51
Country doctor, the.....	439
County health officer.....	21
Curie's, Mme., first American contribution....adv. p. 16, June	
Dentistry in relation to medicine.....	102
Doctor fees, limited.....	370
Doctor has his rewards, country.....	219
Doctors in rural West Virginia, dearth of.....	362
Doyle, Dr. Conan.....	181
Dues, increase of.....	217
Editors association, American medical.....	185
Electricity in the home, dangers of.....	146
Facts in the lay press that should be thought of.....	405
Federal aid extension sound and beneficent, principles..	103
Furunculosis, stock vaccines or autovaccines in treat- ment	363
Gauze sponge expelled from the urinary bladder.....	145
Half century in practice.....	151
Hospital, American for Havana.....	362
Hospital, Henry county.....	220
Hospital standards, report of committee on.....	360
Hospital, the first.....	180
Hospitals, big need of community.....	219
Hospitals, community	51
Hospitals, community, plan for.....	148
Hospitals necessary, additional government.....	179
Hospitals, public health service.....	263
Hospitals, standardizing	360
Insurance company free operation service, Great Western Accident	54
Inter-county medical society.....	324
Iowa state medical society, 1921.....	141
Jones, Sir Robert.....	482
Klotz, Dr. Oscar, appointment of.....	182
Lay press that should be thought of, facts in.....	406
Legal liability for transmitting infection.....	264
Liability of a group firm of physicians for negligence of roentgenologist in their employ.....	361
Life expectation	362
Limiting doctors' fees.....	409
Malpractice liability rates increased.....	362
Maternity mortality in England and Wales, chief causes..	23
Mayo Foundation for medical education and research....	127
Medical coordination and cooperation.....	260
Medical defense, latest point in.....	361
Medical department, Iowa state library.....	264
Medical economics of the state society of New York, phy- sicians' incomes, report committee.....	101
Medical education in New York.....	148
Medical examiners, national board.....	442
Medical history, the study of.....	173

	PAGE		PAGE
Medical history, teaching of.....	325	Infection, relationship of eye to focal, S. D. Maiden.....	8
Medical library association.....	407	Infections of the kidney, Hugh Cabot.....	1
Medical library association twenty-fourth annual meeting.....	326	Infections of the nasal sinuses, acute, with reference to treatment, Thomas R. Gittens.....	84
Medical schools in Colorado.....	326	Infiltration upper air passages, diffuse subepithelial, H. E. Thompson.....	356
Medical science, a marvel of.....	219	Intussusception, early recognition and treatment, C. S. Krause.....	47
Medical standards.....	359	Iowa medical journalism, D. S. Fairchild, Sr.....	400
Menstrual function for certain forms of pulmonary tuberculosis, suspension.....	327	Kidney, infections of, Hugh Cabot.....	1
Nephritis on kidney function, effects of war.....	327	Laboratory procedures, Frederick H. Lamb.....	244
New York legislature.....	358	Lesions of cervical sympathetic, Tom Bentley Throckmorton.....	479
New York medical journal.....	216	Lung, abscess, Edward W. Meis.....	81
Night medical service in Paris.....	22	Medical profession safeguarding Americanism, C. J. Whalen.....	153
Nurses, supply of.....	149	Medical societies, local, D. S. Fairchild, Sr.....	127
Osler institute, an.....	145	Medicine in Iowa, relation of the family doctor to specialist, general public, and the future of, Donald Macrae, Jr.....	227
Proof, changing the.....	102	Melano-sarcoma of choroid, case report, W. H. Johnston.....	342
Prostatectomy, relapse after.....	24	Mental deficiency problem, C. E. Van Epps.....	421
Public health work, coordination in.....	216	Metabolism determinations, principles of basal, W. H. Rendleman, and J. I. Marker.....	352
Radium in malignancy, lithal dose of.....	327		
Radium treatment.....	323	MISCELLANEOUS—	
Radium treatment in epithelioma.....	323	Advertisers, our..... (Adv. p. xx, April)	
Regius chair of medicine at Oxford.....	146	American chemicals, exports of.....	23
Safety first plea.....	215	American journal of obstetrics and gynecology.....	24
Scientific mission to United States, report of.....	100	Asperin Bayer and the Sterling Products Co.....	374
Scottish member of the conjoint boards of England and Scotland and of the University of Paris, impressions of.....	143	Cancer week, summary of organization suggestions and activities to be carried out.....	442
Service, another form of medical and surgical.....	53	Chiropractic, fountain head.....	24
Services, value of medical and surgical.....	102	Committee of arrangements, Des Moines session, 1921, report of.....	490
Sheppard-Towner maternity bill.....	406	Council remedies..... (Adv. p. xviii, Nov.)	
State medical society, silent influence.....	100	Germany, increase in medical students.....	148
State medicine, resolution defining meaning of the term.....	329	Horse hair shaving brushes, danger in.....	328
Stanford medical school, gift from Dr. Adolph Barkan.....	325	Hospital news notes.....	287, 330, 370, 414, 448, 488
Stock vaccines or autovaccines in the treatment of furunculosis.....	363	Industrial laboratories research.....	358
Surgery, international society of.....	22	Infants, modern method feeding.....	374
Test, the supreme.....	363	Iowa state university news,	
Time to retire.....	326	56, 103, 149, 182, 217, 265, 328, 363, 445, 483	
Tuberculosis clinic, county.....	369	Marriages,	
Tuberculosis sanatoria.....	327	31, 63, 108, 152, 185, 291, 334, 372, 415, 450 (Adv. p. xvi, June)	
Ulcer, surgical treatment in the bleeding type of gastric and duodenal.....	23	Medical journals, those who advertise.....	24
Workmen's compensation, medical aspects of British.....	22	Medical news notes.....	25, 57, 105, 150, 219, 287, 330, 369, 408
		Medical practice.....	24
Education and recreation in the army, Wm. G. Haan.....	19	Negroes, scholarships open to.....	24
Empyema, principles of drainage in, John F. Binnie.....	165	New laboratory for Abbott's.....	490
Encephalitis lethargica, Frank M. Fuller.....	173	New and non-official remedies, 20, 336, 374, 416 (Adv. p. xviii, Feb.; xviii, Mch.; xviii, May; xvi, June; xxviii, Dec.)	
Encephalitis lethargica, report of a case, M. B. Call.....	355	Personal mention,	
Endocrines, some aphorisms of the, Horace M. Brown.....	189	29, 61, 107, 151, 185, 223, 289, 333, 371, 414, 449, 489	
Epilepsy, symptom of splanchnoptosis, C. A. L. Reed.....	344	Porterfield, Dr., declared not guilty.....	144
Esophageal stenosis, differential diagnosis, John W. Shuman.....	89	Propaganda for reform..... (Adv. p. xvi, Aug.)	
Esophagus, cardio-spasm with enormous dilatation of, Thomas J. Snodgrass.....	212	Public health announcement.....	358
Eustachian tube and middle ear, treatment, H. M. Ivins.....	201	Registration law, opposed to.....	24
Eustachian tube, how are we treating, F. W. Sallender.....	199	Scientific articles, copies of.....	264
Examination, the physical, J. C. Hancock.....	326	Senate file No. 463.....	145
Exophthalmos, traumatic pulsating, George A. May.....	346	Sodium arsphenamin, toxicity and trypanocidal activity of.....	408
Eye to focal infection, relationship, Sydner D. Maiden.....	8	Switzerland watering places..... (Adv. p. xviii, Nov.)	
		United States public health service.....	63, 147
Family doctor to the specialist, the general public, the future medicine in Iowa, relation of, Donald Macrae, Jr.....	227	Veneral disease control, report of bureau of.....	364
Federal board for vocational education, follow up observation, care of beneficiaries, H. S. Cumming.....	17	War department medical reserve corps.....	104
Feet, potential seat of fatigue, W. v. M. Gerard.....	319	Whiskey not to be used as medicine in the navy.....	24
Focal infection, relationship of eye, Sydner D. Maiden.....	8	Wisconsin homecoming.....	161
Fractures, what war has taught us in treatment, F. R. Holbrook.....	382	Yellow fever immunity against.....	328
Fracture, x-ray in diagnosis and management, Bundy Allen.....	379		
Fusion sense, late development, case report, G. F. Harkness.....	357		
		Motherhood, preparation for, W. L. Allen.....	159
Group diagnosis and group therapy, Lewellys F. Barker.....	113		
Heart beat, physiology of, E. D. Allen.....	300	Nephritis, dietary treatment, R. L. Fenlon.....	437
Heart disease, graphic methods of diagnosis, Austin C. Davis.....	310	Neurological surgery after another interval, special field, Harvey Cushing.....	337, 385, 426
Heart disease, usual clinical symptomatology, Meredith Mallory.....	304		
Hematuria, significance of, report 46 cases, Edwin G. Davis.....	315	Operation, before and after, Nicholas Schilling.....	14

	PAGE
Organization or association of physicians as against individualism or socialization, C. B. Taylor.....	417
Orthopedic surgery and industrial surgery of the extremities and spinal column, standardization of methods of treatment, Robert B. Osgood.....	462

OBITUARY—

Abbott, Wallace Calvin.....	372
Aiken, Joseph M.....	62
Allen, Larned Van Patten.....	185, 224
Archer, W. H.....	152
Arnold, Carl Anderson.....	226
Bachman, Morris.....	490
Beauchamp, Edward D.....	290
Berry, Richard P.....	226
Bittner, Edward William.....	372
Blocklinger, Albert Herman.....	371
Boles, Irwin S.....	223
Bowen, Daniel H.....	450
Branson, Laura House.....	30
Carmichael, Benjamin F.....	489
Conniff, Robert Emmett.....	334
Crawford, David Agnew.....	224
Dyer, Isadore.....	30
Edwards, Eldridge S.....	416
Farlow, S. J.....	31
Farr, Henry M.....	185
Ford, Thomas D.....	415
Graeser, Bernard N.....	30
Graham, William B.....	290
Grimes, William Samuel.....	290
Hanna, John W.....	63
Harris, G. W.....	108
Hay, Rilla Grafton.....	226
Hodges, Thomas M.....	152
Heller, W. H.....	335
Herrman, Sr., Christian H.....	334
Hierstein, William J.....	152
Holiday, Joshua W.....	416
Hoyt, Andros W.....	416
Husted, Horace Lee.....	226
Hutchins, E. R.....	290
Jungblut, Herman Carl.....	31, 185
Kline, Sherman M.....	450
Knott, John M.....	291
Krejci, Joseph C.....	31
Lambert, C. C.....	185
McGarry, Samuel Burton.....	416
McMorris, James A.....	31
Manion, P. H.....	416
Meltzer, Samuel J.....	62
Murphy, George W.....	62
Oliver, Leonard Briggs.....	335
Paschal, Clayton M.....	415
Penfield, William P.....	450
Rendleman, James M.....	63, 108
Summers, N. M.....	152
Thornburg, Mathew Watson.....	185
Tiffany, D. S.....	290
Waggoner, M. R.....	416
Ware, W. F.....	416
Wheelwright, Daniel Winfield.....	152
Wolf, John Dill.....	490
White, W. March.....	186

Parotitis, some aural complications acute epidemic of, George C. Albright..... 38

Pellagra, J. W. Myers..... 433

Placenta and delivery in abortion, detachment of adherent, C. E. Ruth..... 434

Portraits—

Allen, Larned Van Patten..... 225

Conniff, Robert Emmet..... 334

Ford, Thomas D..... 415

	PAGE
Grimes, William S.....	290
Jungblut, Herman Carl.....	185
Knott, John M.....	291
Macrae, Jr., Donald.....	109

Psychopathic Hospital, analysis of first one hundred admissions to Iowa State, Lawson G. Lowrey..... 453

Radium in surgery, use of, E. E. Bamford..... 167

Reciprocal relation of Wisconsin with her neighbors, John M. Dodd..... 93

Roentgenology in pulmonary diseases, Herbert M. Decker.... 11

Shock in the theatre of army operation, prevention and treatment wound, Donald Macrae, Jr..... 394

SOCIETY PROCEEDINGS—

Allamakee county medical society..... 220

American college of physicians..... 99

American congress internal medicine..... 60, 150

American medical association..... 99, 182

Audubon county medical society..... 183

Austin Flint-Cedar valley medical association..... 28, 412

Benton county medical society..... 485

Blackhawk county medical society..... 149, 220

Boone county medical society..... 58, 106, 149, 220, 330, 485

Botna valley medical association..... 28, 448

Butler county medical society..... 285

Calhoun county medical society..... 106, 485

Carroll county medical society..... 58

Cass county medical society..... 58, 106, 220, 486

Cerro Gordo medical society..... 220, 285, 331, 365

Crawford county medical society..... 58

Davis county medical society..... 149

Decatur county medical society..... 106

Des Moines county medical society..... 59, 285, 331

Des Moines valley medical association..... 332

Dubuque county medical society..... 59

Fayette county medical society..... 221

Floyd county medical society..... 59

Fremont county medical society..... 183, 286

Greene county medical society..... 59, 149, 331, 446

Grundy county medical society..... 221

Hamilton county medical society..... 60

Hardin county medical society..... 365, 486

Harrison county medical society..... 183

Henry county medical society..... 183, 286

Inter-County medical society..... 332

Iowa county medical society..... 184, 486

Iowa and Illinois central district medical association.... 447

Iowa medical directors..... 333

Iowa society clinical medicine..... 150, 221

Iowa state medical society, seventieth annual session, minutes of..... 266

Iowa state medical society seventieth annual session, proceedings of house of delegates..... 270

Iowa state medical society, Des Moines session..... 112

Iowa state medical society, seventieth annual session, program 109

Iowa surgeons 29

Iowa x-ray men..... 29

Jackson county medical society..... 60, 486

Jasper county medical society..... 106, 487

Kossuth county medical society..... 446

Lee county medical society..... 106, 221

Louisa county medical society..... 331

Mahaska county medical society..... 107, 149

Marion county medical society..... 26, 366

Marshall county medical society..... 26

Medical veterans of the world war..... 367

Midwestern association of anesthetists..... 368

Mills county medical society..... 60, 107

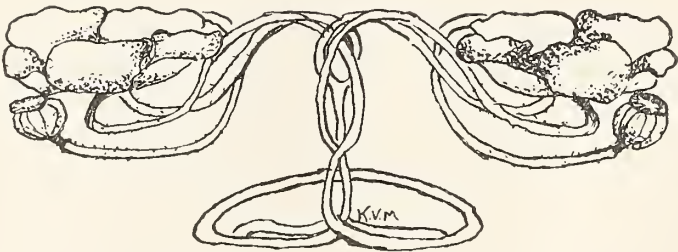
Mississippi valley medical association..... 367

Montgomery county medical society..... 26

Muscatine county medical society..... 26

Northwestern Iowa medical society..... 28, 222

	PAGE		PAGE
O'Brien county medical society.....	26	Subepithelial infiltration upper air passages, diffuse, H. E. Thompson	356
Page county medical society.....	331	Summary surgical diagnosis, the final correlation, Charles S. James	254
Palo Alto county medical society.....	331, 366	Surgery, orthopedic and industrial, of extremities and spinal column, standardization and methods of treatment, Robert B. Osgood.....	462
Plymouth county medical society.....	107, 221	Surgical diagnosis, symposium on.....	234-257
Pocahontas county medical society.....	366	Thomas splint and Balkan frame, demonstration use, C. E. Ruth	121
Polk county medical society.....	60, 221, 446	Thyroid, and its diseases, Charles H. Mayo.....	297
Pottawattamie county medical society.....	60, 366	Torsion of intra-abdominal membranous folds, J. F. Studebaker	350
Poweshiek county medical society.....	286, 331	Tri-state medical society foundation fund, H. G. Langworthy..	321
Ringgold county medical society.....	331, 413, 487	Tuberculosis based upon its clinical cause, treatment of, William H. Ross.....	207
Roentgenologists, Iowa club.....	223	Tuberculosis, operative and non-operative indications in surgical, Arthur Steindler.....	33
Scott county medical society.....	26, 184, 446, 487	Uterine cervicitis, treatment of, Leone Morden Scruby.....	139
Shelby county medical society.....	413	Women physicians during the war, work of, Nelle S. Noble...	44
Southeastern Iowa medical society.....	28	Wound shock in the theatre of army operations, prevention and treatment of, Donald Macrae, Jr.....	394
Southern Minnesota medical association.....	447	X-ray examination, Thomas A. Burcham.....	250
Southwestern Iowa medical society.....	222, 487	X-ray in the diagnosis and management of fractures, Bundy Allen	379
Story county medical society.....	150, 222	X-ray and radium in treatment of certain non-malignant conditions, use, A. W. Erskine.....	203
Tama county medical society.....	150, 184, 222, 487		
Taylor county medical society.....	107, 184, 332, 487		
Tri-state district medical association, program.....	367, 410		
Union county medical society.....	184, 286		
Upper Des Moines Medical Society.....	28, 60, 150, 366		
Van Buren county medical society.....	366		
Wapello county medical society.....	27, 447		
Waterloo medical society.....	447		
Wayne county medical society.....	487		
Western electrotherapeutic association.....	107		
Women, state society Iowa medical.....	112		
Woodbury county medical society.....	27		
Wright county medical society.....	222		
Sinuses, acute infections of nasal, reference to treatment, Thomas R. Gittens.....	84		



The Journal of the Iowa State Medical Society

VOL. XI

DES MOINES, IOWA, JANUARY 15, 1921

No. 1

INFECTIONS OF THE KIDNEY*

HUGH CABOT, M.D., Boston, Massachusetts
Professor in Surgery, Medical School of Harvard University

Mr. Chairman, Members of the Society—I want to call your attention this afternoon to the general subject of infection of the kidney. It is quite extraordinary, I think, how much that subject has been confused, and it almost seems as if there had been a conspiracy to render confusions worse.

One of the gravest difficulties is one which is not peculiar to this condition. That is, that our eminent brethren belonging to the pathological department have a curious inability to remember that the patients upon whom they perform have the misfortune to have died. It is common that after death these people will show the lesions which caused the death, and from that has arisen, for instance, the extraordinary dictum which long held sway that tuberculosis of the kidney was habitually bilateral. As a matter of fact, we now know it was almost universally unilateral, but that was forced down the throats of the pathologists by the clinics.

One can see at once how simple the doctrine is. One type of kidney infection, that of the colon bacillus, is more marked in the female than in the male. You can see what follows. Obviously, for anatomical reasons, infection of the bladder in the female is conceivably more possible than in the male, and upon that alone, apparently, was erected the theory of the ascending infection, the view being that the bladder having become infected the organism then ascended to the kidney, all of which is in total disregard of practically all facts.

It is well known that it is practically impossible to infect the normal bladder, that no amount of introduction of infectious material into the bladder without injury will produce infection. That is true not only experimentally but clinically. Experimentally, it was shown more than a genera-

tion ago that infection of the bladder could not be produced except by injury to the bladder or by the production of artificial retention of the urine. It was then shown, at the same time, that these artificial infections of the bladder having been produced, there was no observable tendency of that infection to proceed upward to the kidney. The business of proceeding upward is far simpler anatomically than physiologically.

Anatomically, we conceive of these organisms as being endowed with legs, something like centipedes, and having obtained a foothold in the bladder they proceed to crawl upward in utter disregard of the descending current of urine which tends to make the ascent difficult. It was then pointed out, that the ascension might take place on the ground, so to speak, that the ascension might take place by direct tracks along—in or beneath—the mucous membrane, and the poor lymphatics were dragged in to help out again in utter disregard of the fact that there is no lymphatic stream which proceeds up the urine. It is common knowledge that lymphatics follow the course of blood-vessels, that there are no blood-vessels following the course of the urine, that the blood supply and the lymphatic supply of the urine is segmental in character, that these organisms which would proceed in the lymphatics must pass through a series of lymph-nodes and fight their way through.

It was forgotten that in the lower third of the urine the lymphatics drain not upward but downward into the lymphatic glands of the pelvis, so that instead of getting toward their alleged goal of the kidneys, these poor bugs would be going down into the pelvis to get lost forever in the shuffle.

It was demonstrated more than a generation ago that infections of the bladder having been produced experimentally, the organisms so introduced very promptly found their way into the blood stream, and it was overlooked in the course of this discussion that the blood stream was a very much easier method by which organisms might be conveyed to the kidney than direct ex-

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tension or the lymphatic current, both of which are seriously handicapped.

It is not my intention to ask you to believe that ascension from bladder to kidney does not occur. It does occur, but only under highly and unusually special cases and conditions in which all of us would expect it. We know that in obstruction of a hollow viscus, reversed peristalsis is the rule. In obstruction of the urine at its lower end, whether by stone, tumor or scar, reversed peristalsis has been assumed to occur and has been demonstrated to occur. Under these conditions infections of the bladder with extension by continuity, as does in fact occur to the lower segment of the urine, brings the organisms directly in contact with a stream, a column of urine in which reversed peristalsis has taken place and infection of the kidney in those cases undoubtedly may occur. I have no reason to doubt that it does in fact occur, but after all, a very small group of cases are found. In people with incontinence of the valvular arrangement at the lower end, and in cases of urinary obstruction in the lower tract the ureter has practically become a part of the bladder, the whole muscular contractual structure from the renal pelvis to the urethra having become part and parcel of the same mechanism.

Contractions of the bladder will force urine back and forth by back-wash to the renal pelvis, and under these circumstances, of course, infection of the kidneys follows infection of the bladder as night follows day, but this again, is a small group of cases, and it is one with which we are not importantly concerned.

I want to invite your attention to what I believe does, in fact, occur. What is the natural history of kidney infections? For simplicity's sake, let us take only the normal kidney. Let us not complicate the picture by dragging in the anomalies of the kidney, the horseshoe-kidney, the misplaced kidney, the dilated kidney. They only complicate the picture without essentially helping it.

The infections of the kidney take place through the blood stream. They hemoglobinous. Long ago everybody was entirely willing to admit that infections with staphylococcus and other somewhat similar pus producing organisms were called hematogenous, blood-born, in other words. Nobody doubted it.

The rather early and excellent work of Brewer, now almost a century old and which met with immediate assent, states that staphylococcus infections of the kidney were commonly associated with staphylococcus infections elsewhere—boils, carbuncles and the like. It never occurred to any-

body that by assenting to that proposition they thereby committed themselves to the general proposition that all infections of the kidney were on substantially the same basis. Now the field has been enormously confused, largely through our fault by failure of the pathologist and the clinician to work in any reasonable contact. They have each shut themselves in and made faces at each other through the door without being willing to discuss the situation, and neither one has ever had any real knowledge of what the other was talking about.

The pathologist has taken the late results of kidney infection and of necessity become entangled in the result of multiple lesions, and he has, as a consequence, described different stages in the same infection as three entirely separate pathological entities.

An analysis which we made in 1888 of suppurative infections of the kidney showed a large group of cases in which you could show three different kinds of infection with different organisms at different periods of time, some of them extending back for more than a generation, and yet the poor pathologist, having no knowledge of the clinical history, was asked to make a diagnosis upon these kidneys, and naturally he picked out the most prominent lesion.

Organisms affecting the kidney do not, from the mere fact that they reach the kidney, discard all their peculiar properties there. In fact they retain them. The groups of organisms which will produce a circumscribed abscess in the kidney. The group of organisms which does not produce a circumscribed abscess elsewhere will not produce a circumscribed abscess in the kidney. The organisms which rapidly tend to destroy tissue will do so in the kidney. You can, in fact, divide the infectious lesions of the kidney very nicely by the properties of the organisms which infect it.

Let us deal first with the group of suppurative organisms which we are but too familiar with, containing the staphylococcus, the streptococcus piogenes and various bacilli, although the staphylococcus and streptococcus piogenes are the most common. These organisms have always been admitted to reach the kidney through the blood stream, and it saves our arguing the point, so there is no world need of doing so. They produce lesions close to the cortex of the kidney because they early stop in the cortical portion, not passing through the kidney freely, and produce circumscribed areas of suppuration. They have very little tendency to extend broadcast through the kidney, but they have a very marked tendency

to form subcortical abscesses to cause perinephritis and perinephritic abscess.

For years we have always been running into cases of very obscure subdiaphragmatic abscess. They are obscure not only in their origin but in their existence. Many of you here will doubtless recall patients whom you have watched for weeks with unexplained fever; finally one morning you find fullness below one costal margin or the other in the back and you find an abscess there containing perhaps a quart or more of pus and which at once you recognize must have been there for weeks and was, in fact, the cause of the ill-defined fever. Those cases were not tied on to the kidneys because the urine, as ordinarily examined, was normal and remained practically normal throughout the course of the disease. There is nothing to attract attention to the kidneys as the source of this lesion, and in many cases the amount of evident damage to the kidney is so small that the pretty rough exploration which one can make of the kidney in the face of the massive abscess does not reveal it to be abnormal. It lies in the wall of the cavity, behind the abscess, and appears grossly normal, and yet it is beyond doubt, in the vast majority of cases if not in all cases, a fact that the subdiaphragmatic abscess is of urinary origin.

The attempt at excretion of these organisms by the kidney having failed, subcortical abscesses having occurred with extension into the fat capsule and through the fat capsule into the perirenal portion, these cases, if seen early, can almost always be demonstrated. This leads me to say what I might have said before in a more general part of the discussion: That all organisms which circulate in the blood are excreted by the kidneys, and many of them may be found in the urine. It has been possible, for instance, for one of my colleagues to determine the organism concerned in a pneumonia case more suddenly and far earlier by examination of the urine than by any other method. They occur early with certainty and they are the organisms which are loose in the blood. Undoubtedly, in the vast majority of cases, the kidney succeeds in excreting these without its undergoing any damage whatever. It is undoubtedly in only the minority of cases that this does not occur. Upon what that susceptibility of the kidney depends I do not pretend to know, but undoubtedly there are people who have put out organisms through the kidney for years without any damage whatever to the kidney.

It follows that this coccus infection of the kidney in its early stages, in other words during the stage when the organism is circulating, will show

the organism in the urine. It is short-lived. It may not extend beyond twenty-four hours. It rarely does, in our comparatively small experience, extend beyond two or three or four days. During that time, the evidence of damage to the kidney is of the very slightest. There may be a little blood; there may be a little albumin.

Those organisms which produce circumscribed abscess in the kidney do not produce pus in the urine, and the urine is microscopically normal, abnormal only when treated with special care.

It is perhaps worth while to point out to you the method by which one may get these organisms separated and distinguished. The method was worked out by an associate of mine, E. G. Crabtree. It consists principally in dealing with specimens of urine taken with scrupulous care and then subjected to very high power centrifuge. You will then get in the bottom of your tube a thin scum of pure organism, and you will readily distinguish the accidental contamination from the predominant organism. So far as I know, it is impossible to draw urine from the blood without the incident of contamination, but the number of organisms is small and will never compare importantly with the organisms which are, in fact, being excreted by the kidney and which, to be regarded as of etiological importance, must be present in large numbers, large numbers being considered only, however, when you subject the urine to prolonged high power treatment through the centrifuge. The ordinary examination of urinary sediment will cast no light on the subject at all. If you deal with the matter in this way, you will be able to select with great certainty organisms which are of etiological importance as against those which are accidental contamination, and you will recognize the large undescribed bacilli which so commonly occur in the urethra as obvious contamination.

The condition just described is the mildest type of the coccus infection of the kidney. The severest type is that most importantly drawn to our attention by Brewer of New York as I have already referred to, which is an overwhelming infection of one kidney, somewhat more commonly the right, but the difference is not great. It is a kidney which he described as acute focal necrosis which shows some tendency to present lesions in pyramidal form. Any suppuration of the kidney may tend to take a pure apical type if the infection starts at the apex of the pyramid. Pyramidal lesions of the kidney by no means prove embolic origin. In the worst cases, the infection is overwhelming. It is generally mistaken for an acute abdominal trouble. I do not remember to

have seen or heard of a case in which the correct diagnosis was made. They are generally regarded as gastric ulcer and acute appendicitis. The diagnosis is generally made at the operation. The kidney may, within twenty-four hours after the onset, be so changed that it is literally a pulp and will come out in your hands. The milder cases are comparatively common, the acute cases fortunately rare, but the milder grades, or what is commonly referred to as the staphylococcus kidney, are not so rare.

You may see a kidney the cortex of which is studded with small, yellowish areas, typical abscesses, and often more roughly meshed by the swelling which takes place around these abscesses. It has been the habit to divide this group of cases into acute and subacute, but there is no hard and fast rule, and I know of no more difficult decision in surgery than as to whether or not the kidney of this kind should be removed. My own experience has been that whichever course I took I was sorry for it. On several occasions I have not removed these kidneys, only to find the temperature persists, and in a week or ten days or two weeks or even three weeks afterwards I have to go in and remove them under obviously more difficult conditions. These attacks are always accompanied by fever which commonly is the so-called septic type. There is always definite enlargement of the kidney which in the vast majority of cases, is perfectly obvious; it is the only type of infection of the kidney in which you commonly get, within a day or two days after the onset, a definite kidney tumor or which can be palpated and which is tender. Accompanied by fever with a microscopically clear urine, it is almost diagnostic, the final touch being made by the recovery of the organism from the urine. That picture is, of course, occasionally mixed with a mixed infection, but it will retain the dominant qualities of the pus producing organism and the other organisms which contaminate the infections, although producing lesions which confound the pathologist are much less likely to be confusing to the surgeon. The picture throughout is dominantly that of the coccus kidney. Precisely opposed to that is the infection of the kidney with the group of bacilli which for convenient practice we are in the habit of referring to as the colon typhoid group.

There are doctors here who could tell you how many thousands of different kinds of those organisms there are, but they do not even fall into respectable groups, as far as I am concerned, and the isolation of the particular type of colon bacillus involved in these infections is a pretty thank-

less task, but they are essentially different from the coccus infections, from the suppurative infections, and enormously more complicated. It is, in fact, this colon typhoid group which produces the vast majority of all kidney infections. Unfortunately, the name pyelitis has been pinned on to this group because there is the predominating symptom of the picture, but it is none the less true that they are excretory in their origin, the kidney primarily, the pelvis secondarily.

It is possible to watch this whole picture experimentally, although it is probably not true that the organism behaves in precisely the same way in animals as it does in men, but we have been able to watch a few cases in men, and the picture is of a diffuse low grade infection of the kidney involving chiefly the condition of tumor producing what pathologists describe as a cloudy swelling, a condition which very rapidly clears up, in many cases, within forty-eight hours, in most cases within a few days.

For some reason quite unknown to me, the organism having passed through the kidney, finds a satisfactory resting place in the mucosa of the kidney pelvis, and the colon bacillus, on the whole, seems to prefer the mucosa of the kidney pelvis to any other portion of the urinary tract. Here they will remain over long periods of time, and, unfortunately, in this position they have introduced complicated factors which have confounded not only the clinician but the pathologist.

The effect of this organism upon the function of the kidney is a very striking one and quite the opposite of that produced by the coccus infection, the reason being clear that the coccus infection involves chiefly the cortical area, not the secreting portion of the kidney, and the coccus infection will affect kidney function only in so far as it destroys kidney tissue.

On the other hand, the colon bacillus produces a diffuse process throughout the secreting portion of the kidney and produces an immediate and very great effect upon the kidney function.

I have seen these patients drop, for instance, from a 40 per cent grade to an immeasurable grade in twenty-four hours after the onset of the disease. Two or three days later, these patients commonly show constitutional symptoms or evidence of retention of products which they should have excreted—the so-called uremic symptoms. By that time, the actual function of the kidney has begun to recover, and by the time the constitutional symptoms are at their height, the kidney functions have often returned more than half way to normal.

Unless you are in position to watch these, you

will probably be investigating the urine after it has dropped to the bottom and come back a considerable distance, but there is no evidence to show that there is at this time any important permanent damage to the kidney. That is the important fact for us to remember.

The natural history of these cases is sometimes very short and sometimes, we all know, very long. It has seemed to us that if our patient is bound to have a colon bacillus infection of the kidney, we should invite him to have a bad one, because then he will recover, whereas the cases that come on with few symptoms and are discovered only from few symptoms are the most unmanageable. I am inclined to think that the more severe the onset, the more likely it is to go on to complete recovery, probably because of the more satisfactory production of antibodies.

You all know the history of an acute attack quieting down to the stage of producing no symptoms and then continuing almost endlessly with a little trace of pus and albumin, coming and going, and with unnumerable colon bacilli in the urine which seem to persist as long as the patient persists.

The pathological condition at this stage is one of an infiltration of the renal pelvis with organisms living in the deeper layer and also, of course, close to the surface, but reproducing themselves at a tremendous rate and tending to produce a stiff condition of the renal pelvis. There is the beginning of the vicious circle which in time will destroy the kidneys. We have seen them at various stages from fifteen to fifty years after their onset, and they will slowly present the picture of an obstructed kidney which is obstructed by the loss of elasticity of the renal pelvis and of the upper portions of the urine and becomes a rigid sac which does not satisfactorily empty its contents.

The only true ascending infection which is concerned in this is the ascension of the infection between the pyramids. It has come down originally through the kidney to the pelvis; it now turns around and ascends through the kidney and destroys a portion of the kidney by choking scar tissue, a slow process which at the end of thirty or forty years may have decreased the kidney substance by perhaps one-half. Occasionally it goes on more rapidly, but as a rule it is a long slow process. The disease itself is a long, slow process which has not been reached adequately by therapeutics.

There are various interesting questions which come up in that connection. We know that the so-called pyogenes of little girls is an exceedingly

common disease. We know that the boys of the same age almost never have the disease and that infections of the kidney in little boys are quite as common with other organisms as with the colon bacillus. We know that these cases are often quite insidious in their onset and are discovered quite accidentally. It is proper for us to believe that a large number of them are never discovered at all, that children of inobservant parents may have pyogenes which is never discovered. We further know that pyogenes occurring in first pregnancy is unfortunately common, and I should be indeed glad if anybody could tell me whether or not these are cases of womb diseases or exacerbation of a long existing diabetes which has simply been flared into activity by the dilatation of the pelvis, of the kidney, which habitually occurs in pregnancy, having relation of course, more to the right kidney than to the left, but some degree of dilatation is practically habitually present during pregnancy.

Add to that the fact that the renal function during pregnancy is reduced one-half in practically all women and in a very large number more than one-half. These kidneys are working under a handicap, and the extraordinary thing is not, as I see it, that some of them are infected, but that a very much large number are not infected. They are overworked and they are handicapped as to their outlet.

There is another group of kidney infections which is much less known but which I think ought to be included here for the sake of completeness. I think it is commonly believed—I was about to say that it is generally believed, which is perhaps not true—that the conditions which we call nephritis, whether acute or chronic, are either due to an infection of the glomerule or to changes of the blood, otherwise that they are primarily infectious or vascular. I think it is further generally believed that these infections are produced by a streptococcus and not by the streptococcus pyogenes which I have already grouped together with the other pus producers. It is pretty clear that the streptococcus hits chiefly the glomerulus, and as you will know there are certain conditions in which you may predict that there will be found at autopsy acute glomerulonephritis, disregarding that the urine has remained absolutely normal throughout; commonly there is no change in the urine at any stage, and the diagnosis can be made only because you know it will be found by the pathologist and not by any sign given during life.

That constitutes the third group. Whether or not there is any other organism than the streptococcus capable of attacking the glomerulus, I do

not know, but the association of acute glomerulonephritis involving the heart ought to be regarded as a separate classification, a separate group of kidney infection. Thus you have three groups of kidney infection, that which involves primarily the glomerulonephritis streptococcus infection of the kidney, that which produces suppuration in the kidney produced by organisms which produce suppuration elsewhere, chiefly the pus producing cocci, with a few bacilli, and finally the group which produced no suppuration in the kidney itself, but passes lightly over the kidney substance, practically without damage, and comes to rest in the tissues of the renal pelvis.

These, at the time of their acute infectiousness show somewhat different pictures. There is, so far as I know, no way of discovering the presence of acute glomerulonephritis. Some of them may show evidence of kidney lesion, but most of them do not.

The streptococci may be found in the urine during the height of disease, and in that way the presumption is rendered more certain, but the urine, in most of those cases, is substantially normal.

The pus producers in the kidney again produce a lesion of the kidney which produces symptoms, but no signs in the urine except in the rare case of an abscess situated close to the renal pelvis and rupturing into it. I have seen those cases. Finally, there is the group which produced comparatively slight symptoms in the kidney but overwhelming evidence in the urine. It shows at once in quantities of urine very large quantities of pus, it being the only one of the groups which does this.

From the point of view of treatment, a comprehension of these three groups is really important because in one group, if there is any treatment which should be applied at all, it is pure unmitigated surgery. In the other group, that is the rarest thing in the world, in fact, I believe surgery is never indicated in the early stages. It may be indicated a generation later.

The occus type of kidney must be treated as any other abscess. If an abscess has formed, whether it be in the kidney or in the subdiaphragmatic space, if it is to be treated at all, if we are to do anything but fast and pray for the patient, we must treat that surgically.

Undoubtedly, there are considerable groups of these cases which run their course undiscovered and uninterfered with by the surgeon and which go on to complete recovery.

In the last five years, we have been very much interested in a group of cases with cocci in the

urine, with limitation of the diaphragm on one side, with leukocytosis and with fever.

We have believed that there could be cases of peri-nephritis and probably very small perinephritic abscesses. We have refrained from operating because we believed it to be unnecessary, and they have gone on to complete recovery. Of course, in the majority of these cases there is a much larger abscess formation, and the limitation of the diaphragm becomes much more obvious.

In those cases in which the force of the infection is expended upon the kidney chiefly, you get the enlarged, tender kidney with considerable fever, with considerable constitutional symptoms and obviously some remedy is required. That remedy is surgery and nothing else. There is nothing in the power of medicine which will touch these cases in any way, shape or manner. The question in surgery is whether to do a nephrectomy or a nephrotomy, or the occasional partial nephrectomy. This can only be decided after the kidney has been or when the kidney is delivered. I defy anybody to come to a conclusion beforehand, except in the clearly acute cases in which the kidney must have been rapidly destroyed and in which removal of that toxic mass is indicated, but in the other cases one can only use one's judgment. It is my own experience that I have more commonly erred on the side of leaving these kidneys in, only to have to take them out with greater difficulty a week or two later, than to have removed kidneys which upon careful investigation I believe should have been allowed to remain.

There was, perhaps a tendency in the earlier years, when this disease was beginning to be recognized, to advise nephrectomy in all cases. The best advice I can give is when in doubt in regard to the indications for nephrectomy, do it. That is in contradistinction to the very sound general proposition: When you do not know what to do, don't do it.

The bacillus group of cases, as I have already pointed out, is never in its early stages in the realm of surgery. It is within the realms of medicine. It is undoubtedly true that the group of bugs which split up in the urine with the release of formaldehyd has the power to make the colon bacillus somewhat dyspeptic. I think nobody believes that it really injures his feelings seriously, but after all, he is a stranger in a foreign land who has settled down at what appears to him to be a good locality. If you raise his taxes, he will get out. You don't have to kill him.

It is extraordinary that in this day and age there is altogether too little recognition of the

method by which these formaldehyd solutions must be given. For instance it is not a month since I was asked to see a case in consultation by an internist of national reputation, and deserving of that reputation. He asked me to see a lady with acute pyelitis with a temperature of 104.5, and he was beginning to get worried, which meant that he was beginning to get bored because it might interfere with his going out of town over Sunday which would be a dreadful calamity. I asked him what he was doing, he said, "Oh, all the regular things; ten grains of hexamine every four hours and ten grains of citrate of potash at the same time." There was a poor woman paying for this expensive drug. We all know that from the decomposition formaldehyd can take place only in a strongly acid medium; it will not even take place in the normally acid urine. It is known that the urine must be more than normally acid. Fortunately, the colon bacillus will attend to this himself if you will only leave him alone. He likes an acid urine, and that is why he doesn't like formaldehyd. The giving of hexamine is a dreadful waste, but it is shockingly common. In health the normal individual will behave very differently toward these formaldehyd containing drugs in sickness.

I remember when we first began to study the question of the excretion of formaldehyd, we took all the people working in the laboratory and we started them on ten grains every four hours and we pushed it until they began to have bladder irritation. Some of them had it at thirty grains and some of them did not have it at one hundred. Then it occurred to us that we might investigate the matter. We found that the people who didn't have it at a hundred were not putting it out. The urine was not acid; the drug was not decomposed. We were injecting hexamine and they were excreting hexametodid with no damage to themselves at all. If we had made those urines acid, (and two drugs would have done it most efficiently and most respectably—boric acid and benzoate of soda) immediately those boys who were taking one hundred grains would have come around and asked us to stop. It has been satisfactorily shown that all that was necessary was to be sure that the urine was thoroughly acid, and by thoroughly acid I mean good, strong acid to litmus paper. Of course, that is an utterly inaccurate test to the chemist who wants to talk about all kinds of interesting questions of acidity, but in practice we worked it out by investigation, and if you get a strong test on litmus paper, you will break up these formaldehyd containing drugs except those carefully combined by

the manufacturing chemist with an alkali.

There are a lot of those on the market and they are utterly worthless except to sell.

Again one finds the extraordinary contingency of very wise and competent internists giving this drug three times a day. Everybody knows the drug is excreted in five hours by the normal kidney. At the end of twenty-four hours there is no formaldehyd in the urine; the bug thinks you have quit and begins to grow. He will increase enormously in a period of rest of that kind. You can see the pus increase and diminish in the urine, and it is utterly worthless, assuming that you mean business, to give formaldehyd containing drugs less often than once in four hours.

With lots of patients it does not make much difference what you give them except that you get them well. The formaldehyd containing drug is not given often enough in most cases.

On the other hand, there is a clear group of these cases which are apparently unaffected by the drug and which will go on for several days with a pretty high temperature and without change, and for them I know of no valuable remedy.

During pregnancy, I suspect that we shall be justified in dealing with the kidney through the medium of the catheter and pelvic divide, but that is a ground which is still new and ought not to be roughly trod upon. It has been my experience that within a few days all these people will come around. On the whole, those with the most severe symptoms will, in the long run, do the best. The crux of the matter comes in the attempt to abolish the organism which will persist in the urine, in the vast majority of cases. In that attempt, of course, vaccines have played a large part. The autogenous vaccine should here work well, but the fact of the matter is that it does not.

Several years ago, we followed fifty cases with autogenous vaccine for a year and then checked them up one year later, and the fact of the matter was that no single patient, having colon bacilli at the start, had failed to show colon bacilli at the finish. Fifty per cent of them were alleged to have been benefitted as to their symptoms.

I believe that, unless some new method of preparing vaccine is brought forward, it is, at the present time, safe to say that the autogenous vaccine is without benefit upon the colon bacillus infections of the kidney.

More recently, within the last three years, I think, or within a comparatively recent time, it has been shown that even in the comparatively early stages in these cases there is a moderate grade of renal retention, that emptying of the

renal pelvis and washing of the renal pelvis shows evidence of having an important effect upon the organisms.

I am not at all prepared to go further, because it seems to me perfectly clear that here is a procedure which may well become meddlesome. It is undoubtedly possible by instrumentation of any organ to do harm. Clearly, here is a condition which only indirectly menaces life. We shall certainly not be justified in taking radical measures or in taking important chances of doing these patients harm. On the other hand, a very considerable number of them go on to ultimate destruction of the kidney, and where the disease is not rare, they may ultimately die of renal insufficiency. We are, therefore, undoubtedly entitled to carry out, with tentative observations on these cases, extreme caution: particularly is that true of pyelitis in pregnancy which commonly occurs about the sixth month and is at its worst during the sixth and seventh months. If, by local treatment of the pelvis and that kidney, we can tide them over that interval, we shall save ourselves, on the whole, a very great number of cases in which pregnancy has to be interfered with or interrupted in the interests of the mother. Every year, I see transferred to my service from the lying-in hospital a group of women who have had fever and pain in the kidneys for periods varying from two or three to five or six weeks. I find them emaciated, in bad general condition, with pulses running above 100, up to 110 and sometimes 120, and many of them have had to have pregnancy interrupted in order to save their lives. Recovery of the patient and important recovery of the kidney occurs in the great majority of cases, but the destruction of the fetus in those cases always seems a shocking admission of our inability to deal with the kidney in this condition over a comparatively short period of time.

If we can snuff out the infection and assist in the return of the tone of the renal pelvis, if we can really affect the organisms living in the region of the renal pelvis by chemical agents, surely we have made a great gain.

The important picture which I want to leave in your minds is that this business of kidney infection is not a complicated business, that it is really simple, that it really forms into groups and that its apparent complications are generally due to lack of care in ascertaining precisely what organism you are dealing with. If you all ascertain from careful investigation early in the disease what the infection organism in that kidney is, you can predict with certainty what the condition in the kidney is and what course it will run.

One word more: a considerable group of cases with the symptoms of so-called pyelitis are not pyelitis at all. I have recently been concerned with all the cases admitted to the Massachusetts General Hospital with a diagnosis of pyelitis. That was correct in exactly one case of four, so the diagnosis is commonly wrong.

Here is a theory which you will run into: if you deal with the catheter specimen containing pus, you will find it sterile. That is due to one of two conditions, either stone or tuberculosis. You can at once exclude the conditions of infection of which I have been talking, and you must then either demonstrate the tubercle bacillus in that urine or a stone in some portion of the upper urinary tract. You will see the late cases with a history going on for years of renal suppuration in which you will not be able to predict with great accuracy the condition of the kidney, but that is due to the lapse of time and to the fact that various factors have been here introduced, but it is, on the whole, very surprising how frequently, in the vast majority of cases, if you deal with the infecting organism as obtained directly from the bladder, you will be able to make a diagnosis of the conditions and a prognosis of that kidney.

If that is more widely done, there will not be the confused view of kidney infection because of which I see every week patients with renal tuberculosis getting hexametodids, persons with staphylococcus infections of the kidney being treated expectantly with colon bacillus and losing their kidneys.

RELATIONSHIP OF THE EYE TO FOCAL INFECTION*

SYDNER D. MAIDEN, M.D., Council Bluffs

During the past ten years there has been an abundance of literature on the subject of focal infections and their relationship to eye affections. One has only to review a few of these articles to realize the rapid strides that have been made in this field and how it has broadened our knowledge and enables us to diagnose and treat a large group of pathological conditions of the eye with much more intelligence and with results more satisfactory to both the patients and ourselves.

If we stop to consider the anatomical structures of the eye, the relation between the orbit with its contents to the surrounding structures and their vascular supplies, we will better understand why

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the eye is prone to involvement to some focus of infection outside of the orbit.

The eye ball consists of three consecutive coats or tunics. The external is composed of condensed fibrous connective tissue which by its resistance to internal pressure gives shape to the eye. The posterior five-sixth is white and opaque and is known as the sclera. The anterior one-sixth is clear and transparent and is called the cornea.

The middle coat is essentially vascular and serves as a nutritive organ for the other coats as well as performing certain functions in vision. It is this middle coat that is of most interest to us on account of its histological structure. It is a soft, easily torn, extremely vascular mesh-work containing pigment cells, nerve fibres, and muscular tissues. Its function is necessarily of a nutritive character lying between the other two coats, it serves to nourish both. Its vessel walls are very thin and allow nourishment to pass through as well as fluids which serves to keep up the intra-ocular tension thus forming a secretory organ of the very simplest form. Embryonically it is developed from the mesoderm and the ectoderm and therefore liable to participation in all of the systemic maladies which affect these tissues elsewhere in the organism. It receives its blood supply from the posterior and anterior ciliary arteries which arise from the ophthalmic.

The inner coat is essentially nervous. The spaces within the globe are occupied by fluid or semi-fluid contents and are known as the chambers of the eye.

Considering the orbital boundaries in a general way, the outer wall of the ethmoidal labyrinth forms the inner wall of the orbit. The infra-orbital surface of the superior maxilla forms the floor and the horizontal portion of the frontal bone forms its roof. Each of these bones forming the major portion of the bony wall of the orbit contain sinuses accessory to the nasal cavity which vary in sizes in individuals. Where they are markedly over developed the ethmoidal sinuses may extend horizontally over the roof of the orbit to a variable distance and even to the zygoma. Likewise the frontal sinuses may extend horizontally backward over the orbital roof, in such cases forming the supra-orbital ethmoidal or supra-orbital frontal sinuses as the case may be.

Thus it is possible to have the orbit surrounded above, below, and on the inner side by sinuses which harbor infection. The sphenoidal sinus posteriorly is in close proximity with the nerves passing from the base of the brain to the orbit.

The superior maxilla articulating with the palatal bone affords bony sockets for the upper teeth. These bones are all contiguous, their periosteum being connected and with their osseous canaliculi, afford direct communication between the teeth, sinuses, and the orbit.

The blood supply to these structures anastomose freely with one another thus playing an important role in considering the influence of focal infections. The ophthalmic artery arises from the internal carotid, passes into the orbit through the optic foramen where it supplies most of the orbital structures, giving off the following branches—lachrymal, muscular branches, posterior ciliary, anterior ciliary, central artery to the retina, supra orbital, posterior ethmoidal, anterior ethmoidal, frontal, and the dorsal artery to the nose.

The infra orbital artery, a branch of the internal maxillary, passes beneath and on the floor of the orbit supplying some of the structures in the orbit, and through the infra orbital canal and foramen. It gives off the anterior superior dental arteries which pass in the wall of the maxillary sinus supplying the upper canine and incisor teeth, as well as the walls of the maxillary sinus and other structures of the face in this area. Its end arteries anastomose freely with those of the ophthalmic. Other branches of the internal maxillary as the inferior dental, anterior tympanic, descending palatine, posterior superior dental, the ascending pharyngeal and palatine of the external carotid, all anastomose with each other in turn with the infra orbital and ophthalmic arteries.

The veins and lymphatics follow very closely the course of the arteries and form an extensive plexus in the pterygoid fossa surrounding the internal maxillary artery. So far as is known there are no lymphatics within the eye other than the fluids in the aqueous and vitreous chambers and the perichoroidal space which serve this function. This is of vital interest for here we have these chambers serving as large reservoirs for the lymph that drains from these various surrounding structures, which harbor infection in a large percentage of cases.

The fifth cranial nerve has a large distribution in this region and together with the intricate relationship of the ciliary nervous system also affords communication between these several structures.

Thus we have four routes that are possible for infections to pass to the eye—by continuity, by way of blood vessels, by way of lymphatics, by way of the lymph sheaths of the nerves. This

focus may be situated in any part of the body but the most potent foci that the ophthalmologist has to contend with are the teeth, tonsils, the nose with its accessory sinuses, and the toxæmias from the intestinal tract.

The secondary eye condition may be due to the action of bacteria transmitted by any of the routes mentioned or by toxins liberated at the original focus. These toxins in many instances are more than likely a solvent protein which have a solvent action on the intra cellular cement substance of the vessel walls. The vessels in the eye having extremely thin delicate walls and no support other than is afforded by their own resistance and being end arteries very minute in size in which the circulation of the blood is at its slowest, a condition exists that is not duplicated in any other part of the body where the bacteria or toxins in the blood stream may produce deleterious results. This is evident in many cases of low grade uveitis or retinitis with exudates and small multiple hemorrhages that clear up only after the focus of infection is found and removed. It has been shown that some of the toxins and bacteria transmitted have a special affinity for the uveal tissue by injecting rabbits subcutaneously with pus from an apical abscess and producing lesions in the choroid of the animal. The epoch making work of Rosenow on the transmutation and selective localization of the pyogenic organisms in the various tissues of the body revolutionized some of our ideas of etiology and pathology. Likewise the clinical investigation of Irons and Brown have proved very helpful in classifying the infections producing intra ocular inflammations. Until recently iritis and iridocyclitis were regarded as practically always due to syphilis, gonorrhea, tuberculosis or rheumatism.

To enumerate all of the affections of the eye that may be caused by some focus outside of the orbit would include all of the inflammatory conditions acute or chronic, a large number of non-inflammatory as well as the reflex neuroses presenting as sensory, vasomotor, or muscular disorders. Any of the orbital tissues may be involved but the tissues within the eyeball itself are far more prone to be affected as is readily understood from what has previously been said in regard to the histology and anatomical associations. Next to the uveal tracts the cornea is a chosen site. This is due to the fact that it has no blood supply, the corneal cells being bathed with lymph which is the only means of nourishment as well as defensive media.

William Lang of London has tabulated the etiology of three hundred and eighty-three cases

of inflammatory eye diseases and demonstrated that in two hundred and fifteen of these, some pyogenic infections existing in other regions of the body were the underlying causes. He names appendicitis, kidney, skin, nasal, chronic, pyorrhea, throat, and other chronic infections, and says that every tissue of the eye is subject to infection to either and all of these. Formerly such cases were all grouped in the so-called "rheumatic" type.

It is not necessary to cite cases to prove the existence of secondary eye infections for it is a daily experience for every ophthalmologist to be confronted with these cases. It is sufficient to remind us that they are very common and when we are confronted with an eye infection the patient should be subjected to a rigid examination, not only for a systemic malady but also for any possible focus of infection. For even though it be proven that the patient has syphilis, gonorrhea, or tuberculosis, it does not mean that the eye condition is due to the constitutional disease for it is quite possible that his eye trouble is due to a pyogenic infection situated in some part of the body outside of the orbit. If such should be the case it is not sufficient to treat the constitutional disease alone but the focus of infection should be removed as well. A patient suffering from some systemic disease is rendered that much more likely to secondary infection because his resistance is lowered to a marked degree.

The argument is raised that the connection between the focus of infection and eye affections is too hypothetical and problematical and that they are not related in cause and effect but are coincidental. This view is based upon the great prevalence of these conditions and the relative infrequency of associated eye disease. But the same is true of syphilis, gonorrhea, and tuberculosis. How common are these and how relatively infrequent are ocular diseases the result of them. Yet no one disputes the syphilitic, or tubercular iritis or keratitis. The same can be said of any other focus of infection. Also it must not be forgotten that individuals are not possessed of an equal degree of natural immunity or of defensive processes. On the other hand a patient may unknowingly be harboring a focus of infection for a variable time, his defensive properties being able to cope with the toxins or bacteria liberated until a link in his defensive chain breaks due to an increase in years and consequently a decrease in his resistance, a lowered resistance from a cold, some general disease, or an injury. The eye being constructed as it is and so intimately connected with frequent foci of infections it is very

frequently the site of infection. These conditions should always be considered when contemplating an intra ocular operation, for an operation can be considered as an injury. Many a poor result following an operation is due to toxins or bacteria transmitted from some focus of infection which if it had been located and removed previously would have resulted favorably to all parties concerned.

On the other hand we should not allow the idea of local infections to become a hobby with us to be ridden to death. A great deal of harm has been done by some who have become too enthusiastic, thinking that in focal infections we have the cause for all ills. The teeth have borne the brunt of such radicalism and as a result many good teeth have been sacrificed. This only emphasizes the fact that it is essential for the ophthalmologist and dentist to cooperate more closely for the interest of themselves as well as the patient. In fact it is only by a close cooperation with all branches of medicine as well as the dentists that the ophthalmologist will be able to treat such cases properly.

In presenting this paper to you it was not with the idea of adding anything to what we already know but rather to bring to your attention a subject that confronts us in our daily work with the hope that through the general remarks made in the paper, with the discussions brought forth, we all may gain some useful information that will serve to keep the subject of focal infections uppermost in our minds for by so doing we will best serve the interests of our patients and at the same time gather new facts.

Discussion

Dr. Leroy R. Tripp, Sioux City—The paper just presented by Dr. Maiden in which he makes plain the simplicity with which bacteria or their toxins gain access to the orbital structures by one or more of four different routes certainly should be made of practical application in the daily routine of every ophthalmologist. There are none I'm sure who question the fact that the different tunics of the eye suffer from systemic and focal infection yet many times if the cause is not apparent we are content with local treatment and fail to find and eradicate the true cause. The majority of intraocular inflammatory conditions the doctor is called upon to treat could be presented as illustrating the significance of this paper. The unusual instances serve to keep us patient and thorough in our search for the true source of the infection. I have in mind a little patient whom I treated for corneal ulcer. The Wassermann and tuberculin reactions were both negative and the tonsils and adenoids which were hypertrophic were later removed without any improvement of the ulcer. On

further examination it was found she had a chronically inflamed appendix. The appendix was removed by the general surgeon and the ulcer rapidly cleared up. The teeth and maxillary antra are perhaps together more often responsible for eye disease than any of the other foci and as 20 per cent of the antral infections are in turn occasioned by diseases of teeth it behooves us to obtain most competent assistance from the dentist being careful as Dr. Maiden says not to become over zealous permitting the removal of healthy structures. Much work has been done on the teeth which from the standpoint of mechanics is perfect yet which encourages the production and retention of infectious material making potent foci of infection easily carried to more vulnerable areas. I wish to mention but one additional point in relation to focal infection. Intestinal auto intoxication is frequently accorded credit for being the disturbing element in uveal disease, etc., but possibly it is more often due to the absorption of toxins of the bacteria themselves which cause the faulty metabolism rather than absorption of toxic food products.

ROENTGENOLOGY IN PULMONARY DISEASES*

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Early diagnosis of pulmonary disease is a very broad subject which should include every conceivable disease condition possible to occur within the chest cavity.

Practically it is not possible to consider more than one disease in an ordinary volume, and in a paper such as this, even one cannot be considered as it deserves.

The subject will be limited to the work on tuberculous children by the Visiting Nurses' Association and the Medical Supervisor of Schools in Davenport.

The aim is to find these children and start treatment before the condition has developed to the point where even the parents suspect that they are not doing well. Necessarily the whole organization must exercise the keenest cooperation and intelligent observation. Every child is inspected soon after entry into school and at intervals during their entire grade school course. Unfortunately, the law does not permit the removal of any clothing, so this examination is limited to eye, ear and throat work and a general inspection. Every defect is recorded and the parents are urged to have them corrected. The school nurses interview the parents and explain the trouble and the remedy. In all cases they are specially urged

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to consult their family physician or to take the child to the Visiting Nurses' Free Clinic where a careful diagnosis can be made. All children who do not progress with the average either in work or in play are to be reported for more careful observation.

The visiting nurses enter the homes of the poorer people where they advise and assist in sanitary and dietary problems. The members of the family are carefully inspected, and if there is a question as to the health of any individual they are urged to report to the clinic, where a careful diagnosis can be worked out and treatment begun. Every case of tuberculosis is sought out and those who have been in contact with the patient are especially urged to determine if there is a possible infection.

The frank case is naturally not difficult to diagnose or handle, but in the case of the child under twelve years of age with a very early infection difficulties arise both in diagnosing the condition and in convincing the parents that the case demands prompt and energetic treatment. The records show that practically none of the patients who have an open case of tuberculosis are cured, so it becomes necessary to locate the lesions and begin the fight before the open stage has developed and a mixed infection is present. It is an old statement that the bacillus tuberculosis never kills its host. This is probably true except in such disease as tuberculous meningitis. The bacillus tuberculosis is a very slow growing organism; so slow in fact that the protective forces of a normal, vigorous individual can easily keep well in advance of its progress. Unless there is constant reinfection or a massive single infection the average child can either eradicate the organism or surround it with a protective barrier which will prevent its spread and development, but which does not destroy it. Probably over 90 per cent of all children are infected before they are ten years old, but so long as their resistance is not broken down they do not develop a true pulmonary tuberculosis.

The favorite site of the original focus seems to be in the lower lobe, a fact that is not generally appreciated. This focus heals, but the lymph nodes about the hilus become involved and the spread to the upper lobes is from these nodes. One or more of these rupture and discharge a massive dose of active tubercle bacilli some of which are coughed up and some aspirated into the smaller bronchioles where they can locate permanently.

In many of these children with early cases there is a beading along the smaller bronchioles which

is so uniform that it is not possible to believe that they are the result of a progressive infection. These minute areas of increased density all being so uniform must have started to develop synchronously from a single massive infection.

In these cases there is always a dense mass of lymph nodes at the hilus and very frequently an area which seems to be an empty shell of a fibrosed or calcareous node which has evacuated its contents into a bronchus.

These old arrested foci may remain for many years before they break down and start a widespread infection. The tuberculosis developing in adult life after some other disease has lowered the vitality or an irritation such as gas poisoning, is not the result of a recent infection, but is practically always due to breaking down of the protective barrier around an old quiescent area.

The nature of this disease, beginning as it does in early childhood, demands that the fight against it be begun with the child. In other words, we must work along the lines laid down for the care of the wounded soldiers. Begin work on those who can in all probability be cured, and if there is time after they are attended to, those who are not liable to recover may receive attention. This does not mean that the well developed, open case should be ignored. These should be placed where they cannot spread the infection to virgin soil. They should especially be kept away from infants and growing children.

The x-ray examination is one of the greatest aids to a diagnosis of the very early lesions. A good plate can now be made in a surprisingly short time. With the double-coated film and two intensifying screens an exposure can be made as fast as the current can be broken, some operators regularly making these exposures in 1/40 of a second. Speed is a great factor when working with children under ten years of age, as it is impossible to keep them quiet. They are usually nervous with strangers and particularly so when taken to a strange place and stripped. Any gross movement of the ribs and lung tissue will fog the outlines and make the plate unreadable and utterly useless.

The position which has given best results is the prone position. The patient is placed perfectly straight and flat with the arms out at right angles to the long axis. The exposure is taken at full inspiration so that all areas of density are surrounded by as much air as can be taken in. It is obvious that better differentiation can be secured when the lung is full of air than when it is emptied and partially collapsed.

Failure of one side to expand can be noted and

the excursion of the diaphragm is easily seen. Adhesions of the pleura with obliteration of the various angles cannot be determined when the chest is contracted unless they are very extensive, in which case they can be located by physical diagnostic methods without much trouble.

Increased density of the hilus is a very early finding in this disease, and fibrosed or calcareous areas are found fairly early. However, these easily seen dense areas are usually fairly well protected by fibrous tissue or calcareous deposit and are not usually causing much disturbance.

The areas of slightly increased density are of prime importance, as they show inflammation in an early stage. This density may vary from a mere smoky area to a distinct density, or may show a beading due to the development of many concrete areas of inflammatory thickening.

These early manifestations are not easily recognized unless the observer is well trained in interpretation. The normal markings must be thoroughly understood before the abnormal can be appreciated. It is rare that the surgeon, internist or general practitioner has the time, opportunity or desire to become expert in plate interpretation, and he should not attempt to interpret plates without considerable training.

The x-ray in the hands of one who is not qualified to correctly interpret what he sees is dangerous to a very great degree. Not a few have been wrongly sentenced to a tuberculosis cure or have been assured that there was no disease condition present. The x-ray is only part of the investigation necessary in very early tuberculosis, but it is and should be recognized as a very important part of the routine procedure. It seems of the utmost importance that the control of tuberculosis begin with the young child and that those who are concerned in this question should maintain an organization which will seek out these very early cases and give them the benefit of every recognized method of diagnosis and rational treatment.

Discussion

Dr. J. F. Herrick, Ottumwa—I am very much interested in this paper, for I believe that the x-ray as a means of diagnosis in tuberculosis is very little understood. I know it is very little used, and I cannot get away from the impression expressed by the essayist that it would be an aid worthy of anybody's attention in the diagnosis of this class of cases. It does not always differentiate tuberculosis from other lung conditions, but in many instances we are at a loss to know where to look in the individual for the cause of poor health, poor nutrition, and sometimes slight elevation of temperature. Physical examination of the lungs may not aid us in differentiating between infection in the lung or some other place.

It often happens that the area involved is deep in the lungs, and even a trained clinician cannot determine for certain that there is involvement. The x-ray will often show it. The essayist did not speak of the stereoscopic pictures. At times they make the diseased area stand out as plain and apparent as if looking your best acquaintance in the face. Every feature stands out so plainly and so clearly that the whole question is settled right there and then as to where your trouble is. Your judgment then, will have to settle whether the condition is tuberculosis or not. But in the diagnosis of pulmonary troubles or obscure conditions in children at any time from the early months of infancy up, I think there is nothing so useful as properly made stereoscopic plates, as the essayist says. It is very important that they be properly made, and I hope that the physicians of Iowa will take this matter up, for I know it is well worthy of their attention.

Dr. Daniel J. Glomset, Des Moines—I would like to say something about my experience in the army in the matter of reading roentgenograms of the lungs and also of my experience in doing autopsies on cases in which the roentgenologist had made diagnosis of lung involvement. I have not been able to satisfy myself that these fan-shaped shadows that Dr. Decker speaks of are indicative of tuberculosis. In my experience tuberculosis does not act that way. In tuberculous lungs you will invariably find areas of caseation, areas of proliferation. In other words, tuberculosis always produces the tubercle, and it will go on to caseation and you will have this marked spotted condition that some of these cases show. Such cases alone turn out to be tuberculosis at autopsy. The fan-shaped areas are almost invariably caused by some infection other than tuberculosis. If we learned anything in the army it was that the fan-shaped affair is not tuberculosis, but due to thickening of the bronchi from other infections. Another point I would like to emphasize is this: That unless one takes a stereoscopic picture of the chest it is exceedingly difficult to determine the nature of the shadows, and it is not then possible unless you examine the active process repeatedly and observe the changes which occur. Conditions that suggest tuberculosis one day will disappear within a week if you repeat the picture. I have seen that occur again and again in France where we examined patients suspected of having tuberculosis. It is only by repeated stereoscopic pictures of the lung that you can get an approximately correct diagnosis of pulmonary tuberculosis.

Dr. Granville N. Ryan, Des Moines—We use the x-ray in correlating the findings just as we do with the Wassermann. In our routine we take the blood for the Wassermann. In the same way we use the x-ray in correlating our findings as to chest conditions, which is extremely important.

Dr. Decker—Dr. Herrick and Dr. Glomset both mentioned the stereoscopic end of the subject. I do

not believe that anybody who is doing much x-ray work is examining these cases without stereoscopic plates, but you cannot show them in a lantern, and so it was not specifically mentioned that this was the method employed. Dr. Glomset questions the significance of certain findings. It is probably true that no one of these findings will definitely tell us that the condition is tuberculosis. We have to work with the clinician, and the results of all the examinations must subsequently be correlated in order to make your final diagnosis. The idea of this paper was merely to stimulate interest in all kinds of examinations of these little children and emphasize the fact that in some places the x-ray is being ignored. The fan is due to thickening of the bronchial tree, and that thickening may be the result of any infection that persists long enough to make a real inflammation or fibrosis, it makes no difference whether caused by a streptococcus or bacillus tuberculosis. However, I believe when you find one of these fans with beading, the numerous concrete spots localized, that is practically always of tuberculous origin. In the army, of course, they were able to bring to autopsy all of these cases that died if they so desired, the limit being dependent entirely upon the endurance of the man who did the autopsy work. They learned a great deal, and we are going to learn a lot from their findings after repeated examinations. There isn't anything in medicine that will get along nicely with a snap-shot—you do not treat any chronic condition in that way. You do not examine your case and then give him a certain amount of medicine and say, when that is gone you are going to be well. You see those cases repeatedly, of course. Those things are so obvious that it didn't seem necessary to mention them except in a general way in the body of the paper, where I said that these children were repeatedly examined and treated during their early childhood.

BEFORE AND AFTER THE OPERATION*

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The great French philosopher Mantesquieu made the observation "Happy is the nation whose Annals are tiresome."

We might well paraphrase this statement by saying: Happy is the patient whose post-operative history is monotonous.

And, during the past few decades, the surgeon has had every reason to contemplate with pride and satisfaction the striking and gradual decrease in the percentage of morbidity and mortality following surgical operations. But even now we are not justified in assuming the pose of the inimitable Dr. Quill who boasted that he had reached the

"top of his profession" and that there was nothing left for him to accomplish. Unfortunately, it is still true that every surgeon who does much surgery has "troubles of his own." And, if he has learned anything in the school of experience he will have realized "many times" that the old medical maxim "prevention is better than cure" applies with particular force to post-operative sequelæ and complications.

Accordingly, it is from this angle that I shall endeavor to direct your attention to this many-sided topic.

The choice of an anesthetic may determine absolutely the clinical fate of a patient. In at least, one instance in my own experience a fatal result was decreed the moment it was decided to administer chloroform. The case was that of a young woman who was suffering from an attack of subacute appendicitis and who, in accordance with the surgical fashion of that time, had been treated by the so-called Ochsner method. When after a week of starvation the symptoms had not been entirely relieved it was decided to remove the appendix. It was difficult for the anaesthetist to keep the patient sufficiently under the influence of ether, so he substituted chloroform. After this the anesthesia was delightfully complete. But about forty-eight hours later we had to face that awful clinical picture resulting from liver necrosis. The patient became restless, jaundiced, delirious, maniacal and died in coma on the fourth day after the operation.

The circumstance that Dr. Kearns of Waverly has observed a case, similar, in practically every respect, would tend to show that such unfortunate terminations after chloroform anesthesia are, by no means, uncommon. Dr. Kearns has ventured the opinion that in these patients the long fast before operation had something to do with lessening the resistance of the liver cells to the toxic action of chloroform.

Personally, it is my firm conviction that in the hands of the average anesthetist ether is about the only safe general anesthetic. Nitrous oxide so fashionable at the present time is certainly not superior to it from the standpoint of safety. Dr. W. J. Mayo says that it is the most dangerous of all anesthetics.

He bases this conclusion on his own experience and on observations made in several prominent Eastern university clinics. On a visit to these model institutions several years ago he found that scarcely an operation was undertaken without in some way "working in" nitrous oxide. On a subsequent visit several years later he found that

*Read at Austin Flint-Cedar Valley meeting at Algona, Iowa.

its use, as a general anesthetic, had been largely abandoned. The reasons given for this "change of front" were rather evasive and indefinite. But Dr. Mayo states that he is sure they were valid and sufficient and that ordinary politeness prevented him from pursuing his inquiries with more importunity.

The objection that ether predisposes to post-operative pneumonia is not well founded because reliable observers have found that this complication is five times more frequent after operations of equal extent in which a local anesthetic has been used. This phenomenon is explained by the fact that this type of pneumonia is in reality nothing more than the terminal clinical manifestation of pulmonary infarcts and it is significant too that it occurs only after operations in the upper abdomen.

Incidentally, it may be well to bear in mind the one indication for spinal anesthesia. In desperate cases of intestinal obstruction it will often cause such complete relaxation of the abdomen and its contents that the tympanitis, so troublesome in this class of surgery, will entirely disappear.

If the choice of an anesthetic may entail momentous consequences the choice of an anesthetist is no less important. Dr. LaPlace of Philadelphia makes the statement that in the administration of anesthetics there is as much difference in the degree of skill exhibited by individual performers as there is between the attainments of a common stone mason and those of a clever sculptor. And we may be sure that the post-operative history of our patients will be more uneventful if we bear in mind that there are more stone masons than artists in the world.

It is, of course, apparent that the more careful and painstaking the observation at the bedside and in the laboratory and the more scientific and sensible the interpretation of the evidence thus accumulated the better will be the result "after the operation." In fact, it would fill "a long felt want" if some courageous and honest doctor would write a large book on unnecessary surgical operations. Such a publication should have chapters on the Lane bone plate, extirpation of hypophyseal and other brain tumors, surgical treatment of enteroptosis including nephropexy and resection of the colon for the cure of intestinal stasis and epilepsy. Operations undertaken for the correction of uterine displacements, "follow up" reports of patients operated for the relief of reflex or masked symptoms of chronic catarrhal appendicitis, exploratory laparotomies and the surgical aspect of gastric crises are topics that should not be omitted.

The careful and honest study of such work would surely emphasize the great lesson that if post-operative results are to be gratifying to all concerned the indications for operation must be clear cut and definite. Of course, every experienced surgeon is familiar with those surgical emergencies in which the outcome depends entirely upon prompt and energetic surgical intervention. Ruptured tubal pregnancy, penetrating wounds of the abdomen, acute perforative appendicitis, strangulated hernia, acute intestinal obstruction, ruptured gall-bladder and perforation of duodenal or gastric ulcer are conditions of this kind. In clinical situations like these the life of the patient will largely depend on whether the surgeon is called early and whether he is awake when he arrives.

But the time of operation is a decisive factor, also in those borderline cases which at certain stages are best treated by purely medical and hygienic measures. The ability to know just when such "masterly inactivity" shall be instituted is one of the greatest things in surgery.

One of the most instructive exhibitions of this accomplishment that it has ever been my privilege to witness was staged one afternoon at the Lankenau Hospital in Philadelphia by Dr. John B. Deaver. The patient was a young colored woman who, it was supposed, was suffering from acute appendicitis. However, the symptoms were not typical and so as a matter of precaution a mid-line incision was made. Just one look into the peritoneal cavity was sufficient to cause Dr. Deaver to retire from the field. The uterine adnexa were practically swimming in pus and their removal at this time would have entailed dire consequences. Five weeks later, after the acute stage had subsided, these same pus tubes were extirpated with comparative ease and safety. While it is a well established surgical rule that, in contradistinction to acute appendicitis, acute suppurative salpingitis is to be treated conservatively, I have wondered just what proportion of surgeons would have had the courage "to back out" after once the incision had been made.

Aggravated cases of exophthalmic goitre afford another striking example of how much depends on the surgeon's ability to select for operation the most propitious moment. Not when the patient is approaching one of the crises so characteristic of this disease but when the symptoms are subsiding, when the clinical tide is receding, so to speak, is the favorable time for surgical intervention. And even then the experienced surgeon will proceed cautiously. He will observe carefully the effect produced by injecting a few

drams of boiling water into the substance of the gland. If the reaction is not too great he will tie off the arteries, possibly one at a time under a local anæsthetic, until finally the desired portion of the hyperfunctioning gland can be safely removed.

In fact, there is probably nothing which has contributed more to improve post-operative statistics than has the tendency of the present day surgeon to be guided, in the amount of surgery undertaken at one sitting, not only by the extent of the pathological lesions found but more especially by the general condition of the patient at the time.

Some years ago at a meeting of the Surgeon's Club at Rochester a surgeon from Indiana who, looked more like a prize fighter than a doctor, made the boastful assertion that before leaving the abdomen he invariably "cleaned up everything."

The amount of harm that such a man would do in a community is awful to contemplate. Happily, his type is rapidly "flickering" toward extinction.

It is now generally recognized that, even for the sake of completeness, an attempt to do more than one major surgical task at a time will multiply complications and increase the death rate.

This is particularly true of active inflammatory conditions in the abdomen. In acute appendicitis, for instance, the surgeon should confine his efforts strictly, to a removal of the vermiform appendix. As a rule the gall-bladder should not be disturbed. The number of stones that it may contain will not influence the prognosis very much but if, in the course of cholecystectomy, the acute peritonitis about the appendix is disseminated to the upper abdomen the patient's chances of recovery are tremendously reduced.

Obviously, it would exceed our time limit even to enumerate the many little things that tend to insure a smooth post-operative convalescence. But not one of them should be left undone.

After all, these minute personal attentions and the almost innumerable technical details constitute an essential part of every well conducted surgical operation and they are not to be neglected by an ostentatious display of simplicity.

At the University Clinic of Dr. John G. Clark in Philadelphia the operating table is covered by an ample air cushion. To the casual observer this may not signify much but it affords great comfort to the patient in that it largely prevents the backache often so disabling and painful. Another measure that is carried out as a matter of routine in this clinic and just before the abdomen is

closed consists in filling the colon with hot water. By means of this simple procedure several very desirable things are accomplished. As the water gradually fills the entire large intestine one can actually see how it causes the sigmoid, colon and the caecum to assume their most natural positions. It is evident that if adhesions do occur they are not so apt to result in obstruction.

Intestinal perforation, particularly of the large bowel, is a most disconcerting accident. When it is promptly recognized and securely sutured the consequences are usually not so bad but it amounts to a tragedy when the opening in the intestinal wall has been overlooked. By employing the little maneuver mentioned above the integrity of the large gut wall can be tested deliberately. Any leakage will become evident at once and the repair of the defect may be undertaken without delay.

It is evident too that shock is lessened and thirst relieved by the large cushion of hot water that lies virtually within the abdomen.

Another routine practice in Dr. Clark's Clinic is unique. Immediately, after every severe pelvic operation the patient is catheterized. Disciples of the late Dr. J. B. Murphy would, doubtless consider such a procedure a rank surgical misdemeanor. But it surely has its advantages.

If, say, a few hours after operation a considerable quantity of urine is passed which was in the bladder at the time when the patient was put to bed it will lead the surgeon to believe that the urinary apparatus is intact.

At the same time both ureters may be securely tied or kidney function may be entirely suppressed.

On the other hand, if the surgeon knows that the bladder was empty when the patient was removed from the operating room it would, of course, be clear to him that any urine subsequently passed must come from the kidney. If, only one ureter is tied with plain catgut it is not such a great calamity. In a few days the gut will be absorbed. Incidentally, I might say that for the relief of post-operative urinary suppression, sparteine sulphate, administered hypodermically, in three grain doses is a sovereign remedy.

Too rough handling of tissues is a surgical sin that causes much discomfort after operation. And, there are few surgeons who are not more or less guilty of this offence.

For instance, in manipulating the skin and the parietal peritoneum it is almost a universal practice to use "any old" artery forceps. Unnecessary trauma with subsequent pain and delayed repair must follow. In handling these sensitive

structures it is certainly more humane and scientific to grasp them with fine mouse tooth forceps.

In forming an opinion of the probable outcome of an operation, individual habits and peculiarities need to be taken into consideration. An alcoholic, obese, lethargic man is liable to be a poor surgical risk. In one sense a surgical operation is an endurance test. "The strongest nerves will win."

The ability to estimate and to utilize in a practical way these variations in the amount of resistance inherent in differ patients is one of the fine accomplishments in surgery and one that is too often disregarded by surgeons of an ultra scientific turn of mind.

In conclusion, let me refer to just one more pre-operative situation which will determine to a very large extent, the post-operative result.

In Caesarian Section the fate of the patient depends practically, on the number of vaginal examinations made shortly before the operation is undertaken. Vaginal examinations by one midwife and several doctors constitute a positive contraindication to the performance of a classical Caesarian Section.

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FOLLOW-UP OBSERVATION AND CARE OF BENEFICIARIES OF THE FEDERAL BOARD FOR VOCATIONAL EDUCATION

TREASURY DEPARTMENT

Bureau of Public Health Service, Washington
May 20, 1920.

Hospital Division

Circular No. 61.

To Commissioned Officers, Acting Assistant Surgeons, U. S. Public Health Service, and Others Concerned:

1. In furtherance of the policy expressed in Hospital Division Circular No. 16, dated November 17, 1919, the district supervisors and their subordinate personnel shall be held to be the field medical representatives of the Federal Board for Vocational Education for the follow-up observation and medical care of beneficiaries of that board who are undergoing training or who, after discharge from hospital or other treatment as patients of the Public Health Service, are awaiting training and are in need of periodical advice and instruction concerning their disease, work, recreation, food, rest and sleep, in order to prevent relapse or recurrence of their disease or disability, as herein outlined.

2. In each district there will be a vocational medical officer who, with his subordinate personnel, will operate in the office of and under the direction of the district supervisor for the purpose of carrying out the provisions of these instructions and who will act in the capacity of liaison officer between the district supervisor and the district medical officer of the board. The chief medical officer of the board will recommend or nominate a suitable physician for this position.

3. District supervisors are authorized to nominate and place on duty full or part time acting assistant surgeons, and to request of this Bureau a detail of such nurses, at training centers of the Federal Board for Vocational Education as may be necessary to perform this work. Letters of nomination of acting assistant surgeons should show the nature of the work to be performed and the approximate number of beneficiaries of the federal board undergoing training. The district supervisor will confer with the district medical officer of the Federal Board for Vocational Education, who will be expected to assist the district supervisor in securing medical officers and to advise as to the number required at cities and towns where the board has men in training. He will

also advise the district supervisor of the probable amount and nature of the work to be done, on which the district supervisor can determine and recommend appropriate compensation. Medical officers so appointed, or already on duty for this work, will be considered as constituting relief stations of the public health service, and they will be under the administrative control of the district supervisor.

4. The duties of medical officers appointed under this provision, or already on duty for this work, will consist of—

(a) The inspection and report of the working and living conditions of the students, and the supervision of the work of the nurses.

(b) The examination, at stated intervals, of all beneficiaries who have disabilities which render relapses or recurrences possible, and the rendering of reports on these examinations on forms issued by the board.

(c) The care and treatment of beneficiaries of the board undergoing vocational training, who report themselves sick to the proper federal board officer, and are properly referred to the medical officer. This includes providing medical care for such beneficiaries in training as are taken sick at their homes only until other arrangements, such as placing patient in hospital can be made. The procedure necessary for carrying out this provision will be arranged between the federal board officer and the medical officer on duty at the training centers, subject to the approval of the district supervisor and the district medical officer.

(d) The examination, care and treatment of other patients of the public health service as may be necessary, complying with regulations and instructions governing same.

(e) The rendering of reports on all examinations, care and treatment of beneficiaries of the federal board and other patients of the public health service on forms 1971-E and F, as prescribed by hospital division circular No. 20 and subsequent instructions relating thereto.

(f) The rendering of such other reports of all examinations made and the treatments given as shall be required by this bureau through the district supervisor. All reports shall be forwarded to the district supervisor, attention vocational medical officer.

5. A beneficiary in training may be entitled to examination, care and treatment.

(a) As a claimant of the bureau of war risk insurance, when the disease or disability was incurred in, or is incident to military service, as

stated in the war risk insurance act, and when the provisions of this act have been complied with.

(b) As a beneficiary of the federal board for vocational education, when the disease or disability was not incurred in, or is not incident to, military service, nor is due to his own willful misconduct, under the regulations of the federal board.

Medical officers will use reasonable care in determining the responsibility for any expense incident to the examination, care and treatment, and forward such bills as are apparently chargeable to the federal board for vocational education, such as prescriptions, x-ray, ambulance, hospitalization, etc., to the district supervisor attention vocational medical officer, without vouchering.

6. The district medical officer will furnish each month to the district supervisor a list of the men in training in each school or training station in his district compiled from statistical report of the board. The district medical officer will furnish to the medical officers on duty at training centers a brief of the medical history of each man needing follow-up observation, when so requested.

7. It is expected that unnecessary paper work will be omitted and that district supervisors, district medical officers and medical officers on duty at training centers will work together to see that reports are rendered on every man who needs observation, but that unnecessary reports will not be rendered on men who are not in need of observation. One report of physical examination will be made on each man in training on the prescribed form one month after training has commenced, or as soon thereafter as possible. Subsequent reports will be made at stated intervals only on men who have disabilities which render relapses or recurrences possible. All tuberculosis cases will be examined and reported on monthly. Other disabilities will be reported every thirty, sixty or ninety days, as the case seems to require in the opinion of the medical officer or at the request of the district supervisor.

H. S. CUMMING, *Surgeon General*.

BOYS AND GIRLS DRUG USERS

In a report made by Albert Weber of New York, chairman of the Committee on Narcotic Drugs and Crime of the American Institute of Criminal Law and Criminology, at its annual meeting held in Indianapolis last week, the statement was made that 75 per cent of the narcotic drug addicts in the United States are boys and girls approximating sixteen years of age.

EDUCATION AND RECREATION IN THE
ARMY*

MAJOR GENERAL WILLIAM G. HAAN

Assistant Chief of Staff, and in charge of education and
recreation work in the Army

That education and recreation as applied to the new army has passed the experimental stage and is now a vital factor in the training of the soldier was shown at a convention of army educational officers, held at Camp Zachary Taylor, near Louisville, Kentucky, on December 9, 10 and 11.

Early in the year, the war department actuated by a deep sense of responsibility felt towards the millions of men brought into the service during the war, as well as by the astounding facts as to illiteracy and physical condition of the young men of the country as shown by draft statistics, and the excellent work done by the commission on education and special training, had conceived an army built up on a new plan. It was proposed to make the army not only a military force to be trained and ready in time of national emergency, but a great educational institution where young men of the best mental, moral and physical conditions, and with the highest ideals of patriotic citizenship would be produced.

This plan was realized, in a measure, when the congress appropriated the sum of \$2,000,000 to be devoted to this purpose during the fiscal year 1920. Accordingly, in September of this year instructions went forward to the commanding generals of all divisional camps and of territorial departments, who at once appointed on their staffs, officers known as education and recreation officers to assume direct charge of the work. Each officer has associated with him at least one civilian expert in educational affairs, who furnishes assistance and advice in establishing schools and manual training classes.

But it remained for the Camp Taylor Convention, called by the Secretary of War in order that the work in general might be co-ordinated and rough places smoothed out, to show that the army is now in reality a great training school where the mothers of our young Americans will be glad to see their boys go. This idea of the army as a vast university in khaki is admittedly hard to conceive, but nevertheless the thing has been accomplished right before our eyes.

No longer is the army merely concerned with the making of a recruit into an efficient fighting man, by giving him the prescribed system of military training only for a few hours of the day and

leaving him almost entirely to his own resources for the remainder of the day. It now assumes responsibility for the entire twenty-four hours of his day, and sees that every portion is gainfully spent in useful study or helpful recreation. In the soldier's life, education and recreation now have equal places with military training, and are definitely scheduled in the program of daily work.

All training, whether purely military or educational, has as its main object the development of the soldier's mind to make him a responsible thinking human being. Every soldier, however poorly he may be educated, or however limited his experience, has still a thinking mind, and that mind is active practically all the time. Such a man is perhaps incapable at the moment of looking at affairs in a broad sense, but the object of all training must be to guide that mind in the direction of right thinking. In order to accomplish this the instructor himself must be able to estimate about what are the channels of thought in the mind of the men being trained, in order that he may so conduct his own part of the work as to gain the confidence of the men he is instructing or leading.

In developing the soldier's mind the most rapid progress is made by placing upon the man, as early as practicable, as much responsibility as he can stand. This placing of responsibility on the man stimulates his pride, raises his self-respect, and urges him to better effort. This is applicable in all kinds of training. It is character building, frequently called moral training, and the most effective means of stimulating self-development.

Every soldier, down to and including the last recruit, will sooner or later become a leader in a smaller or greater sense. In battle, as battles are now necessarily conducted, direct responsibility very frequently goes out of the hands of the officers, and small groups of men must accomplish objectives by themselves; hence leadership must be assumed by some or all of these men. Any one of them may be placed in a position where he must act independently and make his own decision on his own responsibility, which requires thinking and acting on his own judgment. It requires leadership. And it is to develop these latest qualities of leadership that this educational program has been inaugurated.

New recruits are inclined to look on their officers from the very beginning with respect and as thoroughly conversant with their duties. It is very important that this natural impression should be maintained and improved, but this cannot be done unless the leaders are in the habit of think-

*Authorized by the Office of the Assistant to the Secretary of War; Service and Information Branch.

ing correctly and justly in all matters, and acting accordingly. This is necessary to gain and maintain the confidence and respect of the men. When it has been fully accomplished, then most of the small difficulties disappear. There will be a high state of morale in the command, and wherever we find a high state of morale we always find a high state of discipline, instruction and consequent usefulness.

Officers of our future armies will be required not only to be thoroughly trained in a professional sense but must also have that human quality which comes only through a real interest felt for the welfare of the men under their command. They must not only be military instructors to the men, but also their leaders in all sports and recreation. Experience of the larger colleges and universities has shown that a certain amount of sport and recreation is a necessary part of the student's life, and as the army is now a great university in every sense of the word, and each man composing it a student, recreational activity will be a part of its training. Here the army chaplain enters as an important factor in the handling by military means alone of all the camp activities formerly furnished by the Y. M. C. A., Knights of Columbus, etc., and the Americanization of aliens in the army.

Under the system of education now in force it is possible for men to receive instruction so as to fit them to be carpenters, blacksmiths, pharmacists, dental assistants, engine workers, mechanics, draftsmen, stenographers, truck gardeners, motor drivers, repair men, telegraphers, radio and telephone operators, etc. Such educational subjects as English, geography, mathematics, United States history and modern languages are also taught. Of course, at the present stage of the game it is not possible to give instruction in all subjects at any one camp or post, but so far as practicable, the desires of the enlisted man as to the courses to be taken by him will be met.

A certificate will be given by the local commanding officer or school officer to each man who successfully completes a course, indicating that he has satisfactorily completed the course studied. A standard war department certificate will later be adopted, and the possession of such a certificate by a soldier who has been discharged with a character of "excellent" will be sufficient recommendation to a civilian employer as to the qualifications of the discharged soldier for employment.

On the other hand, it is highly important that the men themselves take the thing seriously and realize that the government is concerned not

only in making trained soldiers of them, but also making of them self-supporting and self-respecting members of the communities to which they will return on discharge.

This work is unique in the history of the government, and highly important in showing the trend of the army in facing the new problems developed by the World War. It will result in making the army in time of peace a more valuable factor in the life of the nation by producing men of best possible type, having a good general education, possessing a useful trade, but, above all, thoroughly trained in moral character and the duties and responsibilities of good citizenship.

NEW AND NON-OFFICIAL REMEDIES

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-Official Remedies:

Armour & Co.:

Tablets Anterior Pituitary 5 grains.

Tablets Ovarian Substance 5 grains.

Hynson, Westcott & Dunning:

Lutein, Sterile Solution of

Ovarian Residue—H. W. D.

Tablets Ovarian Residue—H. W. D.

Merck & Co.:

Benzyl Benzoate (Merck).

Organic Salt & Acid Co.:

Benzyl Benzoate (Organic Salt & Acid Co.).

Seydel Manufacturing Co.:

Benzyl Benzoate (Seydel).

E. Fougera & Co.:

Riodine.

During October the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

The Seydel Manufacturing Co.:

Betanaphthol Benzoate.

Benzyl Alcohol.

Mercury (Mercuric) Benzoate.

The Abbott Laboratories:

Acriflavine and Proflavine.

During November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

L. A. Van Dyk:

Benzyl Benzoate.

Benzyl Benzoate 20 per cent.

Benzyl Benzoate 20 per cent Aromatic.

The Heyden Chemical Co.:

Vargol.

Intra Products Co.:

Benzyl Alcohol.

Ven Sterile Solution Benzyl Alcohol.

The Journal of the Iowa State Medical Society

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COUNTY HEALTH OFFICER

There is growing sentiment in favor of a complete revision of our health administration laws. For many years the public has been content with a local health board, only in name. A physician was generally attached, of an amiable disposition, who would not give objectionable advice. But the war has convinced the public that something more is needed; the examination of young men for military service was a revelation of the direction in which we are tending.

The government in connection with its many activities for public betterment has extended the Marine Hospital Service into the Department of Public Health, until now it is becoming evident that the Public Health Service is one of the most important activities of the government. To increase the value of this service the state should come in with carefully planned health service to cooperate with the government. This will be provided for in Iowa by a bill formulated by the code commission which will be reported at the next session of the legislature. It is not probable that all the provisions of the bill will meet the approval of every member of the profession, but there should be an agreement as far as possible. One of the difficulties in securing medical legislation has been the irreconcilable differences of opinion among the doctors. We have already noted that the pharmacists think the medical profession is receiving too much consideration and

influence in the board. It has been insisted on by doctors that the three members of the board should all be doctors. Now, if the legislature should hold from their experience that doctors are not to be relied upon to agree on any important matter, and should insist that one doctor only on the board was all that would be safe, let us not oppose the bill on that account. The bill provides that the secretary shall be of the medical profession, although the pharmacists do not see the necessity of such a provision.

Whatever bill is passed should be in harmonious cooperation with the Federal Public Health Service. Another important measure should be considered in this connection and that is, the county health service. Several county medical societies are taking active steps to secure a full-time county health officer and that the county should be the unit and not the city as heretofore. It has become a recognized fact that the rural population is more exposed to the risk of preventable disease than the cities and in equal need of the services of a trained health officer, he should be a full time man. There are at least two reasons for this, one is that the health officer should be a trained man—a specialist—the well trained general physician or surgeon is not competent for this work, his training is not in the right direction for scientific health service. Again, a local health officer should be independent of private practice for his income. It does not matter how diplomatic a man may be, he will meet with ignorance, selfishness and prejudice, even among the so-called best people, that will seriously injure his practice if he conscientiously and fairly performs his duty to the public.

The three-fold activity in health work will bring results that will lessen the fears entertained by publicists as to the future of the American people, the fear of moral and physical deterioration. Politicians may believe that the passing of resolutions at political conventions that “we are the greatest people on earth” will be sufficient to prevent disease and hold back physical, moral and mental decay, but not so the real men and women who have a vision as to the future.

The government from its end is working with great diligence and only need liberal appropriations. It is now with us, by county and state to push forward with our local and state boards, by cooperation with every agency and activity in health work, not through separate and detached activities at a discouraging expenditure of energy and money, but through co-ordinated lines of agencies which will be vastly more efficient and economical.

THE INTERNATIONAL SOCIETY OF SURGERY

The International Society of Surgery, in the foundation of which Professor Depage had so large a part, held its first three biennial meetings in Brussels, and its fourth in New York in April, 1914. Professor W. W. Keen of Philadelphia was then elected president of the fifth meeting, which it had been arranged to hold in Paris in 1916. He opened this meeting in Paris on Monday July 19, 1920, by an address in which he said, that "those present at the meeting in New York little dreamt that within three months the dogs of war would be loosed on faithful Belgium and heroic France, and that, when Britain's honour was touched, she too would spring to arms in defence of the rights of humanity. The heart of the people of America was with the Allies then as it is now. When finally the Americans were allowed to come to the aid of the Allies they sprang exultantly to their help." Professor Keen then touched briefly on various points of immediate interest. He referred to the great triumphs of medical science in the war, and how the experimenter in the laboratory and the clinician in the hospital had been wedded at the bedside. Institutions of research in all countries and the new Red Cross Laboratories at Geneva gave assurance that the wonderful work would be developed. The medical profession, he said, "must never lower the high standard which distinguished it from a trade; a new remedy, a new splint, or a new method of treatment should be free, so that a device made in Philadelphia should be as available in Paris, in Tokio, in Capetown, or in Buenos Aires as in America."

Dr. Keen who has reached the age of eighty-three years, added many observations which show an active interest in the professional and welfare work in which he has been engaged for fifty-eight years.

MEDICAL ASPECTS OF BRITISH WORKMEN'S COMPENSATION

The Department Committee on Workmen's Compensation, which was appointed in May of last year and includes among its members, Dr. Farquharson, M. P., has presented a compendious report in sixteen parts, making in all eighty-six closely printed pages. After recommending that the present system of insurance should be continued subject to certain modifications and with compulsory powers, the committee recommends a number of changes in the definitions and adminis-

tration of the scheme. Several of these alterations would affect the medical provisions. It is suggested, for example, that the powers of the medical referee should be enlarged so as to authorize him not only to decide the matter referred to him on appeal, but also to pronounce on the actual condition of the workman at the time of his examination. It is recommended that any medical and surgical aid necessary in addition to the medical treatment already available under the National Insurance Act should be provided for the injured workman at the cost of the employer under a comprehensive scheme to be worked out by a commissioner in cooperation with the ministry of health; this would be only one of the duties of the proposed commissioner. The committee considers it of great importance to the satisfactory working of the act that the fullest use should be made of the services of the medical referees in any dispute as to the extent and cause of the workman's incapacity; the statistics and evidence before the committee is said to have made it clear that this is not secured under present conditions.—British Medical Journal.

NIGHT MEDICAL SERVICE IN PARIS

La Presse Medicale describes a new organization for night medical service in Paris. Before the war, night medical service was slow and uncertain. The pharmacists were not generally open at night and emergency patients suffered much inconvenience. Under the old regulations physicians and pharmacists in every quarter were invited to offer themselves for night service.

The names and residences of those who desired to accept this service were entered on a card at the police station of the quarter.

The person needing a physician at night applied at the police station and selects from the list, the doctor, he preferred. A policeman was detailed to accompany the person to the physician's house and then to the patient's home, and after the visit, back again. A fee of ten francs was paid by the police department and refunded by the patient if able to do so.

It was found often, that one doctor after another was busy or absent and serious delay followed. Under the new regulations, it is provided that physicians on night service shall hold himself in readiness the entire night to the exclusion of his personal clientele. The service is to be under the direction of the prefect of police to secure regular and quick service. The city to be divided into five sections and from twenty to thirty-five physicians on duty each night for the entire city,

holding themselves in readiness from 10 p. m. to 7 a. m. in the winter and from 10 p. m. to 6 a. m. in summer. It is proposed to substitute for the 173 physicians, now inscribed for night service, thirty recruited who shall be at least thirty years of age, and not older than thirty-five years who shall serve three years. It is provided that certain pharmacists shall in like manner be on service. Night calls should be made to the police station of the section by telephone, the physician and pharmacist notified and a taxi sent for the doctor and stop at the pharmacist for prepared and sterilized instruments and dressing, or for medicine as may be needed, and when the call is made the physician is returned to his home.

The project of M. Emile Masscard who inaugurated the plan is to do away with the ten franc fee and substitute a fixed annual salary of 3,000 francs for every physician in the service or 50 francs for sixty night service each year, this, it is believed, will successfully remedy the present unsatisfactory plan of night service in Paris.

BARIUM SULPHATE IN RADIOGRAPHY

The recent death by poisoning by barium sulphate used for radioscopic work on the stomach leads the Northwestern druggist to review the subject. It appears that a rather large number of cases of poisoning from barium sulphide have occurred from mistaking the sulphide for the sulphate. Several fatal cases of poisoning were mentioned by Otto Raubereheimer in 1914; the poisonous barium sulphide being used by mistake for the non-poisonous barium sulphate.

The advantages of barium sulphate over other substances for x-ray examinations of the gastrointestinal tract has led to its almost exclusive use. It only remains for druggists and physicians to bear constantly in mind the poisonous nature of barium sulphide to avoid the mistake which has led to numerous disasters.

The B. P. Codex gives a practical formula for the administration of barium sulphate: Barium sulphate, 150 grams; corn flour, 15 grams; sugar, 15 grams; cocoa, 20 grams; water, 500 c.c.

SURGICAL TREATMENT IN THE BLEEDING TYPE OF GASTRIC AND DUODENAL ULCER

Dr. D. C. Balfour of the Mayo Clinic in the Journal A. M. A., considers the operative technic in bleeding ulcers of the stomach and duodenum. After reviewing the special phases of bleeding and reciting illustrative cases says:

Excision by cautery combined with gastroenterostomy is the most satisfactory method in the majority of cases of minimizing the possibility of recurrence of hemorrhage in all ulcers which have been associated with hemorrhages, and similar treatment seems advisable in both gastric and duodenal ulcers which have not exhibited such a complication.

THE CHIEF CAUSES OF MATERNITY MORTALITY IN ENGLAND AND WALES

According to Dr. Victor Bonney, published in "The Lancet."

"What are the chief causes of death directly due to pregnancy and labour? A perusal of the English and Welsh figures for 1912-1915, which may be taken as characteristic of all years, shows that in importance they rank as follows: (1) sepsis, including phlebitis; (2) pregnancy toxæmia, including nephritis, eclampsia and vomiting; (3) hemorrhage, either before, during, or after labour; (4) embolism and other causes of sudden death.

The numbers of deaths due to these causes in the years named are as follows:

	1912	1913	1914	1915
Total deaths directly due to pregnancy and labour.....	3473	3492	3667	3408
Deaths from—				
Sepsis	1280	1173	1422	1253
Pregnancy toxæmia	662	797	787	663
Hemorrhage	610	616	595	556
Embolism and sudden death	298	267	275	242

IMMENSE EXPORTS OF AMERICAN CHEMICALS

Before the war the United States imported about three or four times the quantity of chemicals which it exported. Eliminating nitrate of soda, a natural product imported from Chili, and certain mucilaginous gums imported from the tropics, our importations of chemicals has fallen to an almost negligible quantity, while we have exported during the past year approximately \$175,000,000 worth of chemicals. In the year preceding the war, we exported only \$27,000,000 worth of chemical products.—New York Medical Journal.

BRACHIAL BIRTH PALSY

The occasional occurrence of brachial birth paralysis which if not properly treated, results so badly may be of interest to those engaged in obstetrical practice, particularly on account of medico-legal complications, leads us to suggest the reading and marking a paper published in the American Journal of the Medical Science for February, 1920 by Dr. F. Turner Thomas of Philadelphia. The paper is too long to be abstracted and therefore we would advise a reference to the original.—Editor.

OPPOSED TO MODEL REGISTRATION LAW

Two Western states (Arizona and Nevada), two central (Iowa and South Dakota), and two Eastern (West Virginia and Delaware) are all the states that will not adopt the model law for the registration of births and deaths.—*Journal Lancet*.

SCHOLARSHIPS OPEN TO NEGROES

According to an announcement made by the General Education Board of the Rockefeller Foundation, through its secretary, Abraham Flexner, Julius Rosenwald of Chicago has offered six scholarships of \$1,200 each to pay the expenses of especially qualified negro students doing post-graduate work in such fundamental medical sciences as pathology, bacteriology, physiology, pharmacology, physiologic chemistry, etc. The committee in charge of the awards will consist of Dr. William H. Welch, Baltimore, Dr. David L. Esdall, Boston, Dr. Victor C. Vaughan, Ann Harbor, Michigan, and Abraham Flexner. Appointments will be made in 1920, toward the close of the year's session, to be effective for the succeeding academic year. Applications may be made to the secretary of the General Education Board by individuals, or by institutions in behalf of individuals, and should contain a full account of the education—general and professional—of the applicant, including a transcript of his entire record in the medical school.

—*Journal A. M. A.*

MEDICAL PRACTICE

"Medical practice cannot be conducted in the same way all over the United States any more successfully than farming can be," says "The Medical Council."

"The average medical college teaches a student how to practice in the small area, intensive way—the city or prosperous town way—; it does not teach him how to succeed in the extensive, large-area way—the country way, where the rewards are greater for the average beginner, if well managed, than they are in the city. Our methods of teaching were imported from Europe, and they still largely adhere to European ideals, which are all right for Europe but not adapted to us. The result is a horde of struggling town and city doctors and a dearth of the much-needed country physician. Can we blame the students? We can not.

"Farming began here in New England, Pennsylvania and Virginia. Suppose the science of agriculture was continued in the Middle and Far West along the New England and Virginia model, how far would farmers have developed this country at large? Not very far. We could never have fed the world during the World War had agricultural methods been so inflexible. The great prairie and semi-arid wealth of this country would never have been developed."

WHISKEY NOT TO BE USED AS MEDICINE IN THE NAVY

The Bureau of Medicine and Surgery of the United States Navy has issued an order prohibiting the issue of spirituous liquors to naval vessels for medicinal purposes. When the stock on hand in medical supply depots is exhausted "no further purchases will be made and whiskey will be stricken from the supply table of the medical department of the navy." The use of ethyl alcohol is permissible when a medical officer deems alcoholic stimulation absolutely essential for the preservation of life.

FOUNTAIN HEAD OF CHIROPRACTICE

The Palmer School of Chiropractic advertises itself as "the fountain-head" of chiropractic. The 1920 annual announcement states that students are taught not only "how to act with patients in and out of the office" but also "how to successfully advertise." It is also stated that students complete their freshman, sophomore, junior and senior courses in four months each. Also that if student cannot remain more than twelve months, the school will confer on him the degree of D.C.—*Pennsylvania Medical Journal*.

RELAPSES AFTER PROSTATECTOMY

The occurrence of relapses after prostatectomy are of sufficient interest to warrant a study of cases presented by Dr. Victor Blum of Viennu, Austria, published in the *Urologic and Cutaneous Review* for May, 1920. Dr. Blum has reviewed the subject exhaustively but it cannot be abstracted, satisfactorily without using more space than we give it.

—Editor.

THOSE WHO ADVERTISE IN MEDICAL JOURNALS

The Indiana State Medical Association Journal urges the members of State Medical Society to make it evident that it is worth while to advertise in the state association journal for two reasons, one of which we supply, the ease with which advertisers have qualified to meet the requirements of ethical standards, also the valuable aid they have given in maintaining the standards of the journals. Not only should our members give preference to the products of our advertisers but should make known the fact.

THE AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY

Editor, Geo. W. Kosmak; associate and assistant editor, Hugo Ehrenfest. Published monthly. C. V. Mosby Company, St. Louis.

Dr. Kosmak is an able and experience medical

editor and was for several years editor of the American Journal of Obstetrics and Diseases of Women. Volume I, Number 1 appeared in October. Subscription price \$6.

MEDICAL NEWS NOTES

The work of the Scott county branch of the government clinic in charge of Dr. Robert E. Jameson was highly lauded by Dr. W. S. Conkling, representative of the state board of health and the United States public health service, who inspected the local office.

"The Scott County Clinic is second to none in the state," stated Dr. Conkling. "It has the support and co-operation of all the physicians in the city and is doing a great work."

The clinic does its work without publicity of any kind and no attempt is made to report names of patients or to quarantine them unless the disease is of a vicious nature.

Woodbine doctors held an operative clinic one day recently when the tonsils were removed from six children, free of charge. The clinic was conducted by Drs. Anderson, Flothow, Cole and Walsh, assisted by Nurses Morris and Jennewine and Mrs. C. L. Beebe.

Free Clinics, Sioux City

Regular clinics from 1 until 2 o'clock daily, opened recently in the health center of the Organized Welfare Bureau, under the supervision of forty doctors who volunteered as members of the Woodbury County Medical Society, Miss Ruth Hitch, executive secretary, reported yesterday.

In order to reach all patients systematically, the schedule assigns surgery and pediatrics cases to Monday and Thursday afternoons; eye, ear and nose, gynecology and obstetrics to Tuesday and Friday, venereal diseases to Wednesday and orthopedics to Saturday.

A monthly schedule is agreed upon by the doctors and those in charge for the month of October are announced: Dr. W. T. Conley, surgery; Dr. Emma Ackerman, pediatrics; Dr. L. R. Tripp, eye, ears and throat; Dr. William E. Cody, gynecology; Dr. James F. Taylor, obstetrics; Dr. Carl E. Bosley, internal medicine; Dr. Victor Brown, venereal diseases and Dr. Harry Schott, orthopedics.

Miss Annette Phelan, county health crusader, and Mrs. M. W. Ainsworth, school nurse, opened their work in the county schools this week, with physical examinations and lectures.

The Des Moines school board recently refused to change its policy of providing for first aid treatment for football players, and refusing to pay for continued treatment in cases of fractures or other injuries requiring continued medical services.

No provision was made for emergency treatment in case of injuries received in practice. Board members declared that a physician will be employed to be on hand at each game, but they agreed that the taxpayers would not stand for the expense of hiring a doctor to be on hand at practice each afternoon during the football season. The fee for a physician is \$10 per game.

Doctors Give Services

Are Des Moines doctors philanthropists?

Eighty-one physicians of Des Moines have given service to the amount of \$30,000 to the public health center within the last nine months.

These men are among the city's foremost physicians.

They have conducted 1,207 clinics and have performed about 400 operations.

Waterloo is to be the home of a new insurance company which will be practically the only one of its kind in the country, at least it is the only one of its kind in the Middle West. It is known as the Medical Life Insurance Company of America and articles of incorporation have already been filed.

The company has established offices at 501-02 Black Hawk National Bank building. The capital stock of the company is \$300,000 but \$600,000 is to be sold in compliance with the state laws governing protection of investors. The stock will sell at \$20 per share.

Dr. W. A. Rohlf, chief surgeon of Mercy hospital, Waverly, is president of the company; Dr. J. E. Brinkman, consulting surgeon at St. Francis hospital, Waterloo, and Dr. Wm. Ross, tuberculosis specialist of this city, are vice-presidents. J. M. Schultz, this city, is secretary and treasurer while Wm. F. Gotsch, Nashua banker, is chairman of the board of directors.

On the medical board are some of the most prominent physicians and surgeons of the state. Dr. Ross is the medical director; Dr. Brinkman, Dr. Rohlf, Dr. Frank A. Ely, neurologist, Des Moines, and Dr. Julius S. Weingart, pathologist, Des Moines, are associate medical directors. Frederick C. Withington, Des Moines, is to be actuary. Chief counsel for the company is Edward F. Lunsford, district judge, Denver, Colorado, while the associate counsel is George B. Worthen, this city.

The company is unique and will work in a field where there is practically no competition. It will not in any way be a competitor of the Iowa Life Insurance Company, Waterloo's other insurance concern.

The company has been incorporated to insure sub-standard lives. These are lives which have been refused insurance by old line companies because of some slight physical defect, deformity or other cause which does not greatly endanger the immediate life of the insured.

The doctors of the Correctionville community met recently and formed a clinic and will use the Oates

hospital. Dr. H. A. Smith of Correctionville was elected president. Dr. A. H. Bullock of Cushing, vice-president, and Dr. J. K. Oates of Correctionville, secretary and treasurer.

Dr. David S. Fairchild:

In celebration of the eighty-fourth birthday of Dr. W. W. Keen, a committee, representing medical, scientific, civic and other organizations, and of individuals of Philadelphia and other cities, has arranged a banquet to be followed by a reception in his honor.

A life-sized bronze bust of the Doctor will be presented to him on this occasion by those participating.

It is generally conceded that Dr. Keen today stands in the front ranks of Philadelphia's foremost citizens, as is evidenced by the national and international honors bestowed upon him by reason of his magnificent achievements.

His contributions to the science, art and literature of medicine; his establishment, by his work, of the esteem for America in foreign countries; his record in the civil and the following wars; his position as dean of American surgery, make a record unexcelled by that of any other living American physician.

In due season there will be sent to you an invitation to be one of several hundred taking part in giving this dinner and reception and in presenting the bust to him.

It will be held at the Bellevue-Stratford, on Thursday evening, January 20, 1921. Those participating will not be restricted to the medical profession, but will include many holding distinguished places in life's various pursuits.

The early date of sending this letter is that it may afford an opportunity for general individual expression of tribute by letters, which will be incorporated into a bound volume to be presented at the dinner. They should be written on one side of paper only, addressed to Dr. Keen, and mailed not later than December 15, to

Yours very sincerely,

WM. DUFFIELD ROBINSON,

Chairman.

SOCIETY PROCEEDINGS

Marion County Medical Society

The Marion County Medical Society met in forty-eighth annual session at the court house in Knoxville, Thursday, December 9, 1920. The following interesting papers were read and thoroughly discussed: History of Obstetrical Forceps, and Their Uses and Abuses, Dr. F. M. Roberts, Knoxville; Pre-operative Complications and Their Correction, Dr. E. D. McLean, Des Moines.

The following officers were elected for 1921: President, Dr. J. J. Sybenga, Pella; vice-president, F. M. Roberts, Knoxville; secretary-treasurer, Dr. C. S. Cornell, Knoxville; delegate, Dr. E. C. McClure, Bussey.

Considering the condition of the roads and the weather the attendance was exceptionally good. The following members and visitors attended: Drs. McLean, Des Moines; McClure, Bussey; Park, Tracy; Fox, Crew, and Aschenbrenner, Pella; Bridgman, Roberts, White, Wright, and Cornell, Knoxville.

C. S. C.

Marshall County Medical Society

Members of the Marshall County Medical Society and the Marshalltown Dental Society enjoyed a joint dinner at the Marshalltown Club Thursday night, November 4 after which each organization held its monthly meeting.

Before the physicians Dr. F. L. Wahrer read a paper on Chronic Catarrhal Otitis Media, which was followed by a discussion. Dr. R. R. Hansen gave a clinic, with a patient with an enlarged spleen, showing the favorable and remarkable treatment from the use of the x-ray. Similar cases are rare, and the clinic was most interesting to all the physicians.

The dentists had no formal program, but confined their evening to a round table discussion of various subjects of interest to the profession.

In attendance at the medical meeting from out of the city were Drs. Noble of Clemons; Woods of State Center and Southwick of LeGrand.

Montgomery County Medical Society

Fee bill passed by the Montgomery County Medical Society: Day calls, 8 a. m. to 8 p. m., \$3; night calls, 8 p. m. to 8 a. m., \$5; country calls, same as town calls with additional mileage; uncomplicated obstetrical cases in town, \$25; instrument cases, according to the complication; office visits, \$1 and up according to the examination; anesthetic fee for minor operations, \$10.

Muscatine County Medical Society

The annual meeting of the Muscatine County Medical Society was held at Muscatine, December 9, at which time the officers for the ensuing year were elected. President, Dr. W. H. Johnston; vice-president, Dr. W. W. Daut; secretary-treasurer, Dr. W. W. Potter; delegates, Drs. E. K. Tyler and T. F. Beveridge; censors, Drs. J. W. Stiers and W. A. Cooling, all of Muscatine.

Scott County Medical Society

Resolution No. 1.—Resolved that the following resolution be made section No. 2 of chapter viii of the by-laws of the Scott County Medical Society.

Physicians engaged in lodge or society type of practice shall not be eligible to membership in the Scott County Medical Society after January 1, 1922.

Signed:

A. P. DONOHUE,

W. C. GOENNE,

H. M. DECKER,

Committee.

Resolution No. 2.—Whereas: It has come to the attention of various members of the Scott County Medical Society that certain abuses pertaining to the practice of anesthesia are more or less prevalent in this city, the undersigned members, engaged wholly or partially in the practice of anesthesia, desire to present the following resolution:

Resolved, That anesthetics should be given by registered physicians located, in active practice in Scott county, who are engaged solely or at least partially in the practice of anesthesia.

Resolved, That anesthetics be not administered by any nurse, hospital intern or other person, excepting in case of an emergency or for the purpose of instruction. Resolved further that any fee accruing from any anesthetics administered by a hospital intern shall be payable to said intern.

A copy of Resolution No. 2 to be mailed to each of the three hospitals, namely, Davenport Hospital St. Lukes Hospital and Mercy Hospital, by the secretary of the Scott County Medical Society.

A list of names of physicians who have been elected to membership in the Scott County Medical Society.

New members year 1920: Dr. W. G. Bessmer, now associated with Dr. Bendixen, Davenport, Iowa; Dr. Chester Clark, moved from Davenport, Iowa; Dr. Lena Clark, moved from Davenport, Iowa; Dr. Thomas D. Jacobs, Durant, Iowa; Dr. U. S. Boyer, Davenport, Iowa; Dr. George W. Cusick, Princeton, Iowa; Dr. John I. Marker, now associated with Dr. Rendleman, Davenport; Dr. J. E. Rock, now associated with Dr. Harkness, Davenport, Iowa; Dr. W. P. Hoffman, Kahl building, Davenport, Iowa.

Members leaving the City of Davenport: Drs. G. S. Bowden, Chas. Crone, Chester Clark and Lena Clark.

New officers elected for Scott County Medical Society, 1921: President, Dr. E. O. Ficke; vice-president, Dr. J. D. Cantwell; treasurer, Dr. S. G. Hands (re-elected); secretary, Dr. R. E. Jameson; censor, Dr. J. D. Blything; all of Davenport, Iowa.

Wapello County Medical Society

Meeting of November 16, 1920.—Drs. Moore of Eldon and Hecker of Ottumwa, were elected to membership. Dr. Charles Ricksher of Fairfield was present by invitation, and read a paper on "Functional Nervous Diseases in General Practice." Neurasthenia, psychasthenia and hysteria were discussed and points of differential diagnosis from organic diseases were brought out. The world war with its strains and shocks was very naturally a fruitful cause of this class of disease, and as Dr. Ricksher was in a psychopathic service near the front, where he met hundreds of cases of so-called "shell shock," and other battle casualties of the nervous type, he could speak authoritatively and interestingly. Furthermore, he has evidently studied this class of cases in civil life, and his paper, in exceptionally good style and form, was different from those many of us are

almost compelled to impose on our societies, that is just re-hashes of text-book and journal articles, and often to the detriment of the original. Such attempts, however, are to be commended, and the discussions elicited bring out and emphasize valuable points, very often.

Meeting of December 8, 1920.—This was the annual meeting, and over thirty of the members met at the Ballingall Hotel at six-thirty, and got in good humor by eating an excellent turkey dinner. The secretary's report showed over forty members in good standing, and a balance in the treasury. A committee was appointed to consider the ordering of medical journals by the members jointly, to reduce duplication and cost, and also to investigate the obtaining of a room for the exclusive use of the society as a meeting place and library.

The annual election resulted as follows: President, Dr. Walter E. Anthony; vice-president, Dr. D. E. Graham; secretary, Dr. H. W. Vinson; delegate to State Society, Dr. E. T. Edgerly; alternate, Dr. J. F. Herrick. New member of board of censors, Dr. E. G. Barton; all of Ottumwa.

State Senator Whitmore and representatives-elect Emery and Graham, were guests of the society, and matters bearing on the health of the community, likely to come before the legislature were discussed. Various members of the society called attention to the need of safeguarding the public, particularly by measures insuring adequate education of everyone authorized to practice any form of the healing art. The opinion was unanimously in favor of one standard of requirements up to but not including treatment, and opposed to more than one board of examiners. The guests expressed their approval of these views and asked that the profession aid in influencing the right kind of legislation.

Mr. George Eaton, former superintendent of the school for the blind at Vinton, now field secretary of the National Association for the Prevention of Blindness spoke of the necessity of laws to enforce the use of prophylactic methods.

Dr. Tom B. Throckmorton of Des Moines, our genial state secretary then gave a most excellent paper on Polycythemia with Reports of Two Cases. This being a rare disease, few of the members had had any experience with it but an interesting discussion followed in regard to possible causes of the syndrome.

E. T. E.

Woodbury County Medical Society

A well attended dinner with program following was held last month. Dr. John Shuman's paper on Hypo and Hyperthyroidism, roused a very brisk discussion; while Dr. Arch O'Donough, on Traumatic Valgus with Dislocation in Lisfranc's Joint, presented in an excellent manner a phase of foot trouble rather unfamiliar to most of us, but more than appreciated on that account.

Dr. Harold Brown of Sioux City was chosen to succeed Dr. Charles Magoun, resigned, as secretary.

Dr. Magoun is removing from Sioux City.

Dr. Josef C. Krejci, aged eighty-four years, University of Prague, Bohemia, died at his home in Sioux City, November 12. He was one of the oldest members of the Woodbury County Medical Society as well as a life member.

Dr. C. C. Brandt, has gone East for a two months' post-graduate course; part of the time will be spent with Dr. Brophy of Chicago, and later he will go to New York. His practice is temporarily in charge of Dr. A. T. Bailey, Sioux City.

Dr. R. E. Conniff, will spend the winter months in the South.

The free clinic at the Welfare Station is steadily gaining in patronage, and good work is being done by the follow-up system for the district nurses.

H. B.

Woodbury County Medical Society

A regular meeting of the Woodbury County Medical Society was held at the West Hotel. Following the business meeting, Dr. W. D. Runyon presented a case of Rheumatic Heart, accompanied by the hospital records complete, for discussion. Dr. E. A. Jenkinson talked on Acute Dilatation of the Stomach, especially as occurring post-operatively.

The meetings have been well attended of late, and the talks and papers presented have aroused considerable instructive discussion.

H. L. B.

Austin Flint-Cedar Valley Medical Society

The following resolutions of respect were adopted by the members of the Austin Flint-Cedar Valley Medical Society at their session in Waverly recently. Dr. Jungblut was a prominent member of the association, and will be sadly missed by his co-workers.

Waverly, Iowa, Nov. 9, 1920.

Whereas—Divine Providence has removed from our membership by death our beloved friend and associate, Dr. H. C. Jungblut of Tripoli, Iowa.

Resolved—That in his death this society has lost one of its ablest and most faithful members. We shall miss his wise counsel, his warm handshake, his fraternal interest. We desire to extend to his family our regret at their loss and assure them of our deepest and most sincere sympathy in their bereavement.

Resolved—That a copy of these resolutions be sent his wife, the Iowa State Medical Journal, and a copy be made a part of the permanent record of this society.

W. A. ROHLF,
M. J. KENEFICK,
C. E. DAKIN,
Committee.

Botna Valley Medical Association

The Botna Valley Medical Association met in Avoca recently. A large number of the doctors were present. Dr. Donald Macrae, Col. Tinley and others from the Bluffs were in attendance, besides doctors from Cass county.

Northwest Iowa Medical Society

Members of the Northwest Iowa Medical Society met in Sheldon on Tuesday evening, October 25 for the regular fall meeting, about fifty-four physicians of the four counties being present as well as visiting delegations from Sioux Falls, South Dakota, Sioux City and Le Mars.

The gathering was banqueted at the Myers hotel at 7:00 after which they adjourned to the Sheldon Commercial Club rooms where the business meeting of the evening was held. Officers for the coming year were elected. Dr. Brackney of Sheldon was elected president and Dr. Crawley of Rock Rapids was re-elected as secretary-treasurer of the association.

Following is a list of the speakers: Drs. E. W. Bouslough, F. J. McAllister, K. A. Sporre, F. S. Hough, J. W. Myers, Herman J. Kooiker, Frank Reinch. A committee which had been appointed to take up the matter of consolidating the four county societies with the State Society gave a report. The next meeting will be held in Sheldon in April, 1921.

Southeastern Iowa Medical Society

The forty-fifth annual meeting of the Southeastern Iowa Medical Society was held in Ottumwa November 10 with an attendance of over fifty out of town boosters.

The program commenced in the morning at 10 o'clock and continued throughout the day. At noon, a luncheon was given by the Wapello county branch of the association for the visiting members. After the dinner followed a very interesting meeting. The speakers of the afternoon were Dr. E. T. Edgerly of Ottumwa, Dr. H. C. Young of Bloomfield, Dr. C. R. Armentrout of Keokuk, Dr. J. Fred Clark of Fairfield, Dr. J. L. Miller of Chicago, Dr. Oran W. King of Des Moines, Dr. J. F. Herrick of Ottumwa, Dr. S. A. Spilman of Ottumwa.

During the latter part of the afternoon session the election of officers took place. Dr. E. F. LaForce of Burlington was elected president, succeeding Dr. E. T. Edgerly of Ottumwa. Dr. O. A. Geeseka of Mt. Pleasant, vice-president, succeeding Dr. H. C. Hull of Washington. Dr. George B. Crow of Burlington, secretary and treasurer, succeeding Dr. E. F. LaForce of Burlington.

The next meeting will be held in Ft. Madison the third Monday in October, 1921.

Upper Des Moines Medical Society

Recently at Spencer was held the first meeting of the Upper Des Moines Medical Society for the purpose of organizing the society and electing its officers. Doctors from Spirit Lake, Ruthven, Langdon, Spencer, Milford and Emmetsburg were present and the following officers were elected for the coming year: President, Dr. Bachman of Estherville; vice-president, Dr. Fuller of Milford; secretary, Dr. Brerton of Emmetsburg.

This society was originally organized in 1898 and

dissolved about fifteen years ago. Since the war the doctors are more settled and eager to do better work than ever before. The war also brought many new and useful discoveries in medical and surgical science and the need of getting together to study, consult and discuss the many problems that come up in their daily practice is felt, perhaps, as never before.

Iowa Surgeons Meet

The Iowa Clinical Surgical Society was in session at Mercy Hospital, Des Moines, Saturday, November 27, about twenty surgeons from over the state, attending.

The clinic is under the direction of Drs. W. W. Pearson, John C. Rockafellow, Charles Ryan, R. A. Weston, and Wilton McCarthy.

Iowa X-Ray Men Meet with Dr. Erskine

A meeting of the prominent x-ray men of the state was held in the office of Dr. Erskine, Cedar Rapids, Saturday, October 2. About twenty of the out-of-town physicians were present, besides many of the local doctors. The meeting in the morning was devoted to the clinic, and about twenty of Dr. Erskine's patients were present. A noon-day luncheon was held in the club rooms of the Hotel Montrose. The afternoon program was a discussion of the x-ray and its use in the medical practice. Several of the visiting doctors brought x-ray slides which were used for demonstration.

A banquet for the medical men of north central Iowa was given at Corwith Friday afternoon, October 26. Dr. Fillmore of Corwith and Dr. Janse of Lu Verne were hosts. Interesting papers were read by Drs. Field of Fort Dodge and Wyatt of Webster City. Some of the physicians present were Drs. Chase, Field, Beck and Bowen of Fort Dodge; Drs. Burke and O'Brien of Mason City; Drs. Denny, Cole and Cooper of Britt; Drs. Peters and Clapsaddle of Burt; Dr. Kenefick of Algona; Dr. Wyatt of Webster City; Dr. Clapsaddle of Titonka; Dr. Smith of Wesley, Dr. Linn of Goldfield, Dr. Stull of Corwith. Messrs. Fillmore of Salina, Kansas, and Scott Hanna of Lu Verne were also in attendance. The banquet menu was savorous and the decorations unique. Mrs. Bragg was cateress. After an elegant feed a toast program was given with Dr. Kenefick, toastmaster.

PERSONAL MENTION

Dr. Carl E. Bosely is located in Silver City, New Mexico, where he is assisting Dr. Bullock in pulmonary work.

Dr. R. E. Jameson, director of the government venereal disease clinic, located in 415 Lane building, Davenport, Iowa, attended the Institute for Venereal Disease held at Washington, D. C., from November 22 to December 6 inclusive, 1920.

Dr. James K. Guthrie has recently located at Sheldon, Iowa. The Doctor will specialize in diseases of the eye, ear, nose and throat. He has had five years general practice in the East and in Iowa, and spent fifteen months in France and Belgium in the medical branch of the military service there. The doctor is a graduate of the New York Post Graduate Medical School and Hospital, and has also done work at the New York Eye and Ear Infirmary during the past year.

Dr. H. A. Stribley, physician and surgeon has associated himself with Dr. Langworthy. Dr. Stribley graduated from the College of Medicine, University of Iowa in June, 1918. He then took two years of post graduate work in St. Louis hospitals, serving as interne in the St. Louis City Hospital for a year, and a year as senior house physician at the Missouri Baptist Sanatorium. Dr. Stribley is a graduate of the academic and liberal art department of Columbia, formerly St. Joseph's college. He is popularly known throughout the city.

Dr. F. W. Bachman of Estherville was elected president of the Upper Des Moines Medical Society at a meeting held in Spencer recently. This organization was in existence several years ago but was allowed to die and the Spencer meeting was for the purpose of re-organizing.

Milford Clinic gave a dinner party at the West Okoboji Golf and Country Club to the members of the county medical society and their families, in honor of Dr. C. M. Coldren of Milford, and Dr. Schultz of Spirit Lake, these doctors being the oldest practicing physicians in the county. The afternoon was spent in playing golf and talking of reorganizing the Upper Des Moines Medical Society, which includes four counties, namely, Palo Alto, Clay, Emmet and Dickinson. The first meeting will be held next Wednesday, the place as yet not being decided upon.

Dr. John V. Littig, formerly an eye, ear, nose and throat specialist in Davenport, has been transferred to the United States regular army as a major in the medical corps. He will be stationed at an army hospital at Denver, Colorado. During the World War he held the rank of major and his transfer to the regular army with the same rank is regarded as a recognition of his good work and skill while in the service. He will be transferred from Camp Zachary Taylor at Louisville, Kentucky.

The banquet given Dr. A. J. Cole by the citizens of Britt, where the Doctor was a long resident before moving to Clear Lake, attests the high esteem and regard his fellow citizens hold him in. The Masonic lodge gave him a banquet, presenting him with a gold headed cane. At a banquet given by the citizens in general in his honor, he was the recipient of a diamond stick pin.

Dr. A. J. Cole, for many years a resident of Britt, and a man who has grown up with the country hereabouts, is to retire. He will move to Clear Lake, take life easy and try and get something of rest and pleasure during his remaining years. A. J. Cole was

graduated from Rock River University in 1870. In 1883 he graduated from Rush Medical College and moved directly to Britt and took up the practice of medicine. In this practice he was very successful.

Last evening Dr. D. S. Fairchild, Jr., returned from the East where he passed the past six weeks on duties connected with the surgeon general's office. He made a number of visits to hospitals in the East and while in the Middle West will make similar tours of inspection.

Dr. W. L. Downing, formerly of Ottumwa, Iowa, has located in Le Mars to practice his profession as a surgeon. He will be associated with the Le Mars Clinic, taking the place of Dr. J. N. Gehlen, who goes to Minneapolis to take up public health work.

Dr. and Mrs. L. G. Patty returned from Montreal, Canada, Sunday morning where the Doctor had been in attendance at the Clinical Congress of surgeons. They also spent a week in Boston where the Doctor attended clinics and a few days in New York and stopped off in Ohio.

Dr. R. H. Loot, formerly of the University Hospital at Iowa City, has located in Maquoketa.

Dr. Charles A. Manahan, who has been practicing medicine for the past year at Blairstown, has removed to Vinton. Dr. Manahan is a graduate of State University Medical Department and of Jefferson Medical College of Philadelphia.

Dr. and Mrs. J. W. Shuman of Sioux City visited the doctor's parents at Los Angeles over the holidays.

Dr. E. L. Wurtzer, formerly of Germania, after a post-graduate course of several months in general surgery, has located at Mason City, Iowa.

The many friends of Dr. and Mrs. F. S. Spearman, formerly of Whiting, now of Rifle, Colorado, will regret to learn of the loss of their little daughter Ellen Adelia, September 11 following a short illness, aged three years.

OBITUARY

Dr. Laura House Branson passed away on New Year's day at the home of her only daughter, Mrs. Lafayette D. Mitchell, at 3026 Classen Boulevard, Oklahoma City, Oklahoma, where Dr. Branson and her husband were spending the winter. Dr. Branson's death came after a brief illness. She was one of the most prominent women physicians of the Middle West, in fact of the United States. She was a graduate of the State University of Iowa, College of Medicine, Class of 1885. Received B.S. degree, 1901, and M.S. in 1902. She was a member of the graduate college of Iowa State University, doing research work in psychology and pathology. A registered pharmacist. First woman physician to be made health officer in the State of Iowa. A member and ex-president of Johnson County Medical Society, Iowa Women Medical Society, ex-president of Iowa Medical Women, and member of American Medical Association. Collaborator of the Woman's Medical

Journal. At the time of her death she was grand noble of the Nu Sigma Phi Medical Sorority, state chairman of the Iowa American Women's Overseas hospital work. She has written several books which have gained wide circulation in this country and abroad. A leader in business and professional circles of her home city. A woman of rare culture possessing a wide circle of friends. She is survived by her only daughter, the wife of Judge Lafayette Douglas Mitchell and her husband, Dr. Leon L. Branson, a dentist. Dr. Laura House Branson was born in Iowa City, Iowa. Her parents were William and Mary (Stuart) House, pioneers of the Iowa Athens. Dr. Branson was of Scotch descent, of which she was very proud.

Isadore Dyer, M.D., New Orleans, Louisiana, died of heart disease on October 12 at the age of fifty-five years. He was graduated from Tulane University of Louisiana, School of Medicine, in 1889, served as interne in the New York Post-Graduate Medical School and Hospital, returning to New Orleans in 1892. He became affiliated with Tulane University School of Medicine as lecturer on dermatology, 1892 to 1905, associate professor from 1905 to 1908 and professor from 1908 to the time of his death. He also served as associate dean and dean of the same institution. From 1893 to 1905 he was professor of dermatology in the New Orleans Polyclinic. In 1894 Dr. Dyer founded the first board of control of the Louisiana home for lepers, a work in which he continued to be active and interested. He was a fellow of the American Medical Association, of which organization he was vice-president and member of the Council on Medical Education and Hospitals at the time of his death. He was affiliated also with the American Dermatological Association, the Southern Medical Association, the Association of American Medical Colleges, the American Society of Tropical Medicine, and other state and national medical bodies. During the World War Dr. Dyer served as major, heading the local examining board for the Medical Reserve Corps. After his discharge he was colonel in the new reserve corps. Dr. Dyer was editor of the New Orleans Medical and Surgical Journal and a frequent contributor to the literature of dermatology and tropical medicine.—(New Orleans Medical Journal.)

Dr. B. N. Graeser, 1516 Thirty-first street, pioneer physician at Ida Grove and since 1895 a resident of Des Moines, died at his home Saturday. He was eighty-five years old and came to Iowa in 1879. He practiced medicine up until his retirement thirty years ago.

Dr. Graeser is survived by his widow, three sons and two daughters. One son, Attorney George Graeser, resides in Des Moines. The Rev. Charles Graeser holds a pastorate at Merced, California, and Dr. H. B. Graeser is located at Holtville, California. The daughters are Mrs. F. S. Sargent of Los Angeles, and Mrs. B. W. Dawkins of Farmington, Missouri.

Dr. S. J. Farlow, a former well known doctor at Farnhamville, died recently at his home in Des Moines.

Dr. Joseph M. Krejci died November 12, 1920 at Sioux City, Iowa.

Dr. Krejci was born in Prague, Bohemia, August 24, 1836. He was a graduate of the University of Prague, where he studied medicine. During his young manhood he was a sufferer from tuberculosis. It was with the hopes of shaking off this disease that he came to America about 1868, settling in Scranton, Pennsylvania. There he practiced his profession for several years. During his residence in Scranton he aided in the founding of the Scranton Liederkrantz in 1869.

Becoming dissatisfied with the Eastern climate, he came to Sioux City about 1872 and took up the practice of medicine. According to the records, Dr. Krejci received his license as a physician in 1886, at which time he had been practicing in Iowa for fourteen years. For twenty years Dr. Krejci was the leader of the choir at the old St. Mary's church, now the Cathedral of the Epiphany.

Dr. James A. McMorris died suddenly Saturday, November 6. He had just entered the house when he dropped dead. He was a pioneer physician and had been a resident of Belle Plaine for over fifty years.

Dr. McMorris was born in Ohio and was eighty-four years of age. He was married to Jean Hoops on December 25, 1867. He is survived by his wife.

Doctor Herman Carl Jungblut was born of German parents, in West Bend, Wisconsin, April 8, 1862; acquired his preliminary education in the public schools of his native town; took a business course in Chicago; spent two years in the medical department of the Iowa State University; completed his medical course in Bellevue Medical University of New York City, receiving the degree of M.D. therefrom in 1891; he located in Davenport, next in Sumner and finally in Tripoli in 1894, where he had a large and most successful practice till his death, which occurred November 3, 1920.

Dr. Jungblut supplemented his medical course by post-graduate work in Vienna, Breslau, Berlin, and London. He was a member of medical associations from the local association of Bremer county on up to that of the Clinical Congress of Surgeons of North America—seven in all. He had been married twice, his first wife being Miss Eva Sweet, sister of Representative Sweet of Waverly. She died some years ago. His second wife survives him. It may be truthfully said that Dr. Jungblut gave his life a sacrifice to his profession and to suffering humanity, for his physical manhood, which was vigorous and strong, could not withstand the tremendous strain of his large practice and the duties and requirements of his hospital which he established in Tripoli. About a

year ago he suffered a severe attack of influenza, more recently a severe cold, and lastly inflammatory rheumatism, to all of which the heart finally weakened, and the end came suddenly and all too soon, his age being fifty-seven years six months and twenty-five days.

MARRIAGES

Dr. John Emmett Rock of Davenport and Miss Gertrude Perry of Williamsburg, at Iowa City.

Dr. A. J. Oliver of Muscatine and Miss Grace McIlvay of Muscatine. Dr. Oliver is a graduate of Drake University and Rush Medical College. Mrs. Oliver was formerly superintendent of Benjamin Hershey Hospital.

Dr. Earl Morgan and Miss Helen Kenney of Iowa City.

The management of the Oconomowoc Health Resort announce the opening of two new buildings. One is for chronic nervous cases, and the other is an isolated building for "Rest Cure" patients. The latter units conform in construction to the previous ones, being absolutely fireproof. The classification of patients is complete in every respect.

BOOK REVIEWS

MASSAGE AND EXERCISES COMBINED

A Permanent Physical Culture Course for Men, Women and Children. With 86 Illustrations and Deep Breathing Exercises by Albrecht Jensen, Formerly in Charge of Medical Massage Clinics at Polyclinic Hospital and Other Hospitals, New York. Box 73, J. P. I., New York City, New York, 1920.

This is an interesting book including a new system of the characteristic essentials of gymnastic and Indian Yogis concentration exercises, combined with scientific massage movements. This is not a book for physicians alone but for men and women who should be desirous of obtaining the fullest physical development possible and also secure graceful and attractive body movements. There are eighty-six illustrations and a full description text which will enable any intelligent person to direct his or her movements and massage. Ambitious men and women are priding themselves in athletic sports but this plan of massage and exercise will do more in the way of a fully developed body than any unsystematized exercise we know of. This system does not in any way interfere with sports, but will indeed add materially to the efficiency of athletics in any chosen form. The respiratory, circulatory and muscular systems together with the joints will gain immensely by this combined systematic training. We most cordially recommend this book to the men and women of this country.

MEDICAL CLINICS OF NORTH AMERICA

Volume 4, Number 1 (New York No., July, 1920). By New York Interest, Octavo of 370 Pages with 44 Illustrations. W. B. Saunders Company, 1920. Price, Paper, \$12.00; Cloth, \$16.00 Net, Clinic Year.

This large number contains an unusual amount of valuable clinical material. The first is a consideration of nephritis in relation to the essential nature of the disease as a basis of treatment. In the clinic of A. A. Epstein the types of chronic parenchymatous nephritis are presented. These two papers furnish an outline of forms of disease that the physician should regard with close attention. Dr. Harlow Brooks considers the sequelae of influenza. An important clinic is furnished by Dr. H. Wessler on encapsulated pleural effusion illustrated by twenty-four x-ray plates, another by Dr. Cary Eggleston on the treatment of advanced heart disease. There are other valuable contributions which we cannot now consider. A section of this number is devoted to the consideration of metabolism at Columbia University. Altogether this is one of the most interesting numbers published.

HYGIENE, DENTAL AND GENERAL

By Clair Elsmere Turner, Assistant Professor of Biology and Public Health in the Massachusetts Institute of Technology; Assistant Professor of Hygiene in the Tufts College Medical and Dental Schools. With Chapters on Dental Hygiene and Oral Prophylaxis, by William Rice, Dean Tufts College, Dental School. C. V. Mosby Company, St. Louis, 1920. Price, \$4.00.

The book before us is of unusual merit in that it recognizes the fact that dentistry is advancing beyond the mechanical stage and is entering the field of public service. The country is filled with tooth carpenters whose views do not extend beyond mechanical work. The dental schools of our universities are now fully developed along scientific lines and are sending out young men trained in the knowledge of the human body, its anatomy and physiology and in sanitary matters. The time has come when dentistry is a branch of medicine and dentists are to be ranked with trained physicians not only in relation to professional matters but in health and sanitary relations. The spirit of welfare service has reached the better class of dentists as fully as it has with the medical profession and this book is a recognition of the fact. The first chapters are devoted to the structure of the teeth and hygiene of the mouth, diet, digestion assimilation and the hygiene of nutrition. Exercise, breathing, and the hygiene of action.

Chapter five: Hygiene of the nervous system, and chapter six: Hygiene of reproduction.

Commencing with chapter six is a consideration of diseases, immunity and other conditions that not

only affect the mouth and teeth but other systems as well.

Chapter eight is given to oral prophylaxis and relates to the care of the teeth and the gums, special advice is given to the method of brushing the teeth, which the author believes to be of fundamental importance. The relation of diet to the health of the teeth is considered. Much harm may come from mouth washes and tooth powders and pastes if they are not carefully considered.

The second section of the book deals with general propositions similar to other works on sanitation, considering the mouth as the center of activity and with special reference to the teeth.

The book on account of its relation to the mouth and teeth presents sanitation from a somewhat different angle than the usual work on sanitation and should reach the dentist who until recently has regarded himself as a mechanic. We trust the day is not far when the dental surgeon will be regarded as a practitioner of a branch of medicine.

DISEASES OF CHILDREN

By John Lovett Morse, A.M., M.D., Professor of Pediatrics, Harvard Medical School: Visiting Physician at the Children's Hospital and Consulting Physician at the Infants Hospital and at the Floating Hospital, Boston; Third Edition, W. M. Leonard, Publishers, 1920. Price, \$8.00.

The first section of this book is introductory and deals mainly with general considerations and we are therefore relieved of the discussions of anatomy and physiology. The main points in an examination are dealt with, then the author starts out with section two, page 63, with diseases of the new born and presents the histories of a series of twenty-two cases which illustrated the main features of this class of patients, including diagnosis and treatment.

Section three: Diseases of the gastro-enteric tract. Classified as adopted by the department of pediatrics of the Harvard Medical School. There are thirty-four case histories included in this group.

Section four: Diseases of Nutrition. In this section are included eight illustrative cases with a short discussion of home modification of infants' foods.

Section five: Specific Infectious Diseases. In this important section are thirty-one cases. Each case presents a full history, including physical examination, diagnosis and treatment.

Section six: Diseases of the Nose, Throat, Ears and Larynx, eight cases are presented.

Section seven: Diseases of the Bronchi, Lungs and Pleura, seventeen cases.

Section eight: Diseases of the Heart and Pericardium, illustrated by fourteen cases.

Section nine: The Liver, three cases.

Section ten: Diseases of the Kidneys and Bladder. Eight clinical histories point out the principle facts to be considered.

(Continued on Adv. Page xviii)

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No. 2

OPERATIVE AND NON-OPERATIVE INDICATIONS IN SURGICAL TUBERCULOSIS*

(Report on 350 cases)

ARTHUR STEINDLER, M.D., F.A.C.S., Iowa City

A tuberculous bone or joint lesion is a peripheral manifestation of systemic tuberculosis.

This is a viewpoint which has been persistently emphasized by Koenig, and which from clinical experience as well as pathological investigations and autopsies we are more and more inclined to accept. Direct infection of bone and joints with tuberculosis occurs so rarely as to be negligible; the vast majority of infections are secondary to those of the alimentary and respiratory system. It is not generally realized that in the majority of cases coming to autopsy for all causes, evidence of healed quiescent or latent tuberculosis is found. In children, especially under the age of fourteen years, tuberculosis was found in one-half the cases and Rokitsky, in 11,000 autopsies on patients dying from other causes, found in nearly one-half of them evidence of healed tuberculosis.

In the light of these facts it cannot appear strange that the outstanding feature in tuberculosis of the bone and joint is the great uncertainty of the moment of complete repair and the almost unlimited danger of recurrence.

In discussing the protective reaction of the tissues to tuberculous invasion it is being pointed out by Krause that the permanence of the benign character of the tubercle or, on the other hand, its conversion into tuberculosis is entirely dependent upon individual resistance. Generally speaking, the bacterium is the constant and the organism the variable.

Believing in the systemic character of surgical tuberculosis we are inclined to follow the lead of those who, in the treatment of surgical tuberculosis place the general hygienic measures at par if not in advance of the treatment of the local manifestation.

Omitting the mentioning of the well known sanitary and dietary measures one must accord first place to heliotherapy as the most valuable and indispensable method for general as well as local treatment. In 1903 Rollier began the systematic application of this method and reported on it in 1911 in a classical work entitled—*La Cure Solaire de la Tuberculose*—. The method has since found very able and ardent advocates in this country, especially in Hammond and Campbell. Rollier's statistics show among 804 cases of closed surgical tuberculosis 703 cures or 87 per cent; among 328 cases of fistulous surgical tuberculosis 248 cures or 75 per cent. His own conclusions are, that this treatment produces increase in weight, Hemoglobin and in the number of red blood cells, that sinuses and abscesses heal readily under the sclerogenous action of the sun rays and that the articular function may be better preserved than is possible with any other method. Campbell believes heliotherapy beneficial not only in tuberculous conditions but in other infection as well.

His report on the sun treatment in surgical tuberculosis comprises fifty-one cases, of which thirty were tuberculosis of the bone and joint; his statistics are as follows:

Of thirty cases of tuberculosis of the bone and joint, eighteen received constant treatment for five and one-third to nine months. In four of these cases the process was arrested clinically and four others did not respond within that time of insolation according to x-ray or clinical evidence. The other ten cases responded most favorably and were discharged apparently cured.

Our own experience includes only thirteen cases, of which four cases of tuberculosis of the spine, six of the hip, two of the knee and one of the ankle.

One case of advanced Pott's disease died, two cases were not improved locally but the remainder (ten) responded favorably to the treatment and showed considerable improvement in the general and local condition. In two cases of Pott's disease and in two cases of hip disease, which came

*Presented at the Sixty-Ninth Annual Session, Iowa State Medical Society, May 12, 13, 14, 1920, Des Moines, Iowa.

under treatment in very precarious condition the ultimate recovery was practically entirely due to heliotherapy.

Reports on treatment by artificial sunlight with mercury vapor or quartz are much less favorable and less uniform in results. We had no experience with this method.

SEA SHORE INSTITUTIONS

In keeping with the principle of outdoor treatment are the methods carried out in seaside institutions, in this country, and especially at Berck Sur mer in France where insolation and open air treatment is combined with salt water bathing.

Maynard has reported extensively on the results obtained at Berck Sur mer; in his figures the low death rates are most interesting; only a little over 1 per cent for tuberculosis of the spine and 0.6 per cent for hip disease. Clinically the weight of evidence for improvement or cure is in line of the general condition rather than that of the local; namely, increase in weight, and appetite, disappearance of temperature and considerable increase of individual resistance. Still, the improvement in the local condition is almost equally great, many times really remarkable. In many cases disappearing of the tubercular gibbus or total preservation of joint function is obtained. Nevertheless, the functional outcome of the affected joint is depending entirely upon the amount of joint destruction and complete restitution of a joint the articular surfaces of which have been destroyed is impossible.

The great advantage of heliotherapy for the surgical lesion lies in the fact that arrest of tuberculous growth and speedy developments of repair may be expected with greater assurance when a response to general insolation is obtained.

One word may be said in regard to treatment of joint tuberculosis by tuberculin. This method of treatment has been taken up in surgical tuberculosis a great many times and has developed advocates and adversaries alike. Senn was one of the most ardent opponents. In his treatise on joint tuberculosis he scathingly condemns the method, but his initial dosage was too high according to our present day conception of tuberculin immunization. Murphy advocated this method, Albee considers it to be of definite therapeutic value. Recently the matter has gained new interest through the work of Bonime who devised a very careful system of minimum dosage and of insidious increase of doses checking up the increase in tolerance by observance of the local, focal and general reaction. Some opposition has already sprung up to this newer method but in

fairness to the author the rationality of this method and the painstaking care of its application must be acknowledged and no report should be accepted unless based upon equally carefully handled technic.

In the local treatment of surgical tuberculosis there is still considerable discrepancy in the opinion of different observers. This much is sure that conservatism must be the guiding star in treatment of joint tuberculosis in children and that here direct operative methods should be resorted to only under pressing circumstances.

To this conservatism the newer methods of osteoplastic stiffening of the spine by Albee's operation or by Hibbs' method form no exception because these operations do not attack the tuberculous focus directly but are carried out with a mechanical object in view only. Under certain conditions, however, operative interference becomes urgent even in children. This is especially true of severe cases of hip disease where the local process threatens to go beyond control or where vital indications are to be met. Reiner has formulated several indication for operative interference in tuberculous hip; among them are an increasing intra-articular abscess, lack of drainage, pelvic perforation, circumscribed localization of the focus within the bone. In the main points these indications are generally acknowledged. Maynard in his classical work on tuberculous hip disease is an advocate of early resection in children where such emergency indications exist.

In adults the operative indications become very much extended. This is true especially of the knee, ankle, elbow and shoulder. It is still a matter of dispute whether or not tuberculosis of the knee in an adult will ever heal without operative interference or whether conservative treatment of the ankle will ever be productive of a useful limb. In considering resections of the large joints it is necessary to keep in mind that the object of resection is not the entire anatomical removal of all diseased tissue. In the case of the knee joint tubercular granulations will be found to have invaded the femur, and tibia to such length that no functional result can be expected from total removal of the diseased bone. But we know that the absolute abolition of the joint with total loss of motion and creation of raw bone surfaces in itself greatly promotes curative effect; as L. Ely expresses it, no joint—no tuberculosis. This should be taken to mean that after total removal of all joint surfaces the remaining tuberculous tissue can much more easily be trusted to be taken care of by natural sources of defense.

In the last ten years there have come under my

observation 350 cases of joint tuberculosis among 4600 cases, aggregating about 7 per cent. Of these cases were:

Tuberculosis spine 155 or 44 per cent.
Hip disease 112 or 32 per cent.
Knee disease 32 or 9 per cent.
Ankle disease 26 or 7.3 per cent.
Elbow disease 11 or 3 per cent.
Shoulder disease 5 or 1.7 per cent.
Wrist disease 8 or 2.25 per cent.
Fingers 22 or 0.75 per cent.

Of these cases 253 or 70 per cent were treated; 28 or 11 per cent were treated operatively and 225 or 89 per cent conservatively.

1. *Cases of Pott's Disease, 105*—The result of sixty cases treated for one year or more was as follows: Cured twenty, improved twenty-five, poor result two, died thirteen. Of all cases treated sixty-six were treated by brace or cast, twenty-nine by extension and recumbency, four with heliotherapy, thirteen cases were operated on among which the Hibbs operation was done in eleven and the Albee in two cases.

Of the cases which died eleven were treated by extension and recumbency, one was operated by Hibbs method and one by the Albee operation. The cause of death was generalized tuberculosis in eight cases, meningitis in three cases and kachexia and amyloidosis from extension of local diseases, in two cases.

We have found that in the long run those treated in recumbency and especially those treated with heliotherapy, have done very much better as a general rule than those receiving ambulatory treatment, except cases of old and almost healed tuberculosis, or where the tuberculous process was very much localized and where the general condition was such as to make application of cast or brace both secure and advisable.

We have also found that with the exception of one, cases operated by Hibbs' method have done exceptionally well after operation.

2. *Hip Disease*—Of 112 cases of hip disease observed eighty-seven were treated. The result of fifty-seven cases treated one year or over were: Cured thirty-two, improved nineteen, not improved four, died two. Six cases were treated by heliotherapy of which one died, one was not improved, four improved.

Only in four cases resection of the hip was performed, two adults and two children; the two children died and two adults were improved.

We have found in hip disease also that in children protracted recumbency with extension gave much better results, especially in regard to ultimate position and function of the joint. In the

cases treated by ambulatory methods the hip, when examined after two or three years was often not found to be in as good a position as might be desired, especially in cases of acetabular disease. We had a number of cases develop large abscesses after they had been allowed to be taken out of recumbent position and to be up in cast and on crutches, because they had been free from temperature and pain and their general condition seemed satisfactory. When they were put back in extension the abscess in many instances would promptly become absorbed. Two cases died because of the uncontrollable progress of the acetabular disease into the pelvis with development of intra pelvic abscesses. These cases were finally resected, but resection should have been carried out sooner and the proper time of resection was missed under the pressure of the general policy of conservative treatment.

Maynard has carried out resection of tuberculous hip in 235 cases and found perforation of the acetabulum in 99 cases or 39 per cent.

3. *Knee Disease*—Thirty-two cases of knee disease were seen and twenty-six treated. Of the cases treated for one year or over ten cases were cured, of which number eight cases were treated conservatively and two cases (adults) by resection. Six cases were improved, of which two had been resected (adults) and four cases treated conservatively. Two cases were not improved and came to amputation. Total number of cases treated eighteen.

The cause of failure in the two adults were incomplete resection or deferment of the operative treatment. Two cases were treated by heliotherapy with good results and in two cases of very severe knee disease distinct improvement was obtained by passive hyperemia treatment.

According to Bier the best result in passive hyperemia is obtainable in tuberculosis of the elbow with 72 per cent and ankle joint with 70 per cent, the wrist with 88 per cent and the foot with 61 per cent of good results. One of the results of the treatment with passive hyperemia is the increase in the discharge and the forming of cold abscesses. The latter Bier does not consider to be an unfavorable sign.

4. *Ankle Joint*—Twenty-six cases of tuberculosis of the ankle joint were observed of which twenty-one cases were treated. In the cases treated for one year or over results were as follows: Cured six, one operative and five conservative; improved eight, two operated and six conservative; not improved two cases.

All operative cases were adults, one case operated gave good result and two cases had amputa-

tion. The amputation was carried out between the middle and lower third of the leg as the most favorable point for subsequent wearing of an artificial limb. According to all newer reports leg amputation is superior to partial amputation of the foot or Pirogoff and Symes operation. As far as the ultimate functional result is concerned. Heliotherapy carried out in one case gave favorable result.

5. *Wrist*—Eight cases of wrist tuberculosis were seen and five were treated, all conservatively. Of those treated for one year or over one was cured and two improved.

In regard to operative treatment of the tuberculous wrist, some men advocate resection of the wrist in adults. We have refrained from making this indication even in adults because resection of the wrist gives poor functional results. Wearing of an apparatus becomes usually necessary.

Of two cases of tuberculous dactylitis of the fingers one case was cured and one improved.

6. *Elbow*—Eleven cases of tuberculosis of the elbow were seen of which nine were treated. Of the cases treated for a year or over, two were cured, three improved, three not improved, one came to amputation.

In regard to the treatment of the elbow it should be mentioned that conservative treatment gives most excellent results in children. Two of the cases recovered with practically normal motion.

7. *Shoulder*—Five cases of tuberculosis of the shoulder were seen and four treated. Two cases were operative, both adults. One cured and the other died. One case improved and one case not improved.

The cause of death in this case also was delayed resection as autopsy showed extension of the disease from the shoulder joint into the pleural cavity.

In reviewing the causes of failure in this series, especially the causes of death, the following points may be made:

1. In a number of cases severe complications leading to death were brought about by early discontinuance of treatment.

2. In a number of cases the ambulatory treatment, especially in spine and hip cases, was productive of the aggravation of the condition which, soon became uncontrollable, even though the patient returned to recumbent treatment.

3. A number of cases who came under treatment were so far advanced that even radical operation was not able to check the progress of the tuberculous infiltration.

Conclusions: As result of the experience drawn from these statistics I feel that the first thing that deserves warmest advocacy is the securing of all facilities necessary to carry out general treatment especially that of heliotherapy and outdoor life. Barring a few patients in especially favorable circumstances this should mean institutional treatment for the majority of cases.

2. Severe cases of either Pott's disease or hip disease or shoulder disease will do better in recumbency than in ambulatory treatment and the general trend should be more toward prolongation of recumbency such as is carried out in institutions as in Berck Sur mer in France where the patients are kept in recumbency for one and one-half years or longer.

3. While the division of indications into conservative and operative treatment largely parallels the division into adults and juvenile tuberculosis there are operative indications for radical interference in children which if undertaken at all should be done at an early time. We have been confronted several times with failure, notably in cases of resection of the hip joint, because apparently the opportune time for this operation had passed; and yet, we have only to consider the statistics of Maynard to be reminded of the value of the operation if done at the proper time.

In our institution we are compelled to discharge cases in a comparatively short time. We feel, however, that the best results are obtained by long period of institutional care so that both recumbent and general hygienic treatment may be administered thoroughly and systematically.

Discussion

Dr. Oliver J. Fay, Des Moines—Dr. Steindler's paper is of value because of the large experience upon which it is based, but he has made it particularly valuable because his frankness has allowed us to profit by his mistakes as well as by his successes. Though these mistakes have been unusually few in number, his careful and frank analysis of them make them of real service to us, as well as to him. The problem of surgical tuberculosis is essentially the problem of tuberculosis in any part of the organism. Whatever is said of etiology applies alike to tuberculosis in any other tissue. It is thus evident that the general treatment must also be the same. In surgical tuberculosis as in other cases of tuberculosis, the social or economic factor is, of course, of vital consideration. With children it is largely a case of providing adequate institutional care in order to make possible the necessary long-continued treatment. With adults there is not only the problem of adequate hospital facilities—and I am entirely in accord with Dr. Steindler in believing that proper care at home is

only obtainable for the patient who is financially very fortunately situated—but there is often the problem of bread-winning as well. Even after the patient is able to dispense with hospital care, his social status will play an important part in the final outcome of the case. If he must continue to live under adverse conditions, improperly fed, improperly housed, any success which the surgeon may have achieved is apt to be set at naught. Dr. Steindler has been so conservative, has based his statements on such sound facts, that it is very difficult to find a point on which to take issue with him. I, too, have been struck by the relatively favorable prognosis in cases of tuberculosis of the elbow or the shoulder-joint, particularly when compared to the end results in cases of tuberculosis of the knee. However, I am not prepared to say that conservative treatment in the latter case is never followed by clinical recovery.

Dr. J. W. Cokenower, Des Moines—I did not hear all of the paper, but enough to say that it is certainly valuable, because, first of all, it deals with the clinical aspect of the subject under consideration, which is always preferable to too much technic and theory. I will not attempt to discuss the paper in a general way, but there are a few things pertaining to tubercular disease when considered from the operative standpoint that have always been at our command and which should, I think, always be used. Oftentimes the operative procedure is deferred too long on account of dependence upon medicinal sources of treatment, which rarely accomplish the desired end result when there is broken down tissue, which, if free drainage is not provided, is taken up by absorption and the system at large must pay the debt and oftentimes a serious one. Hence, the thing to do is first to immobilize the limb in its normal axis if this can be done, and, if not, as nearly so as possible, remembering this: That the first endeavor should be to eliminate the disease, and if there is subsequent deformity this can be corrected after you have satisfactory results. I am speaking specifically of the extremities because with tuberculosis of the thoracic, abdominal or pelvic cavities I have had no experience. Whenever there is any broken down tissue the sooner free drainage is provided and all of the broken down or decayed tissue taken away, the better. Of course, the general line of treatment for support is always indicated when you have immobilized, provided free drainage and stimulated the parts. In many cases free drainage is not sufficient, you have to use irrigation, cauterization and stimulation in various forms as indicated in order to secure the best results. When you have done that you have certainly done all that is possible from an operative standpoint. My experience fully justifies me in stating that operative procedure is often delayed too long and that if it was resorted to earlier the ultimate results in many cases would be better.

Dr. William Jepson, Sioux City—I feel that we are very much indebted to Dr. Steindler for bringing this topic up for consideration, and especially do we ap-

preciate the fact that he has called our attention to a work which is being carried on under his direction at this time and which was inaugurated under Dr. Rollier in the Hospital for Tuberculosis situated in the mountains of Switzerland. And I stand here to make a confession to you gentlemen: When in 1913 I read the last paper emanating from that institution and contrasted the results achieved there with the work which I had done, and I presume mine, while it may have been a little worse than that of some of the rest of you, was very similar—when I had reflected upon my own work after analyzing Dr. Rollier's results as revealed by his statistics which I have since had opportunity to corroborate, I was really ashamed of my results. As I recall, this resume detailed over 800 cases treated, with over 700 cures and a very small percentage of deaths. The operative interference was extremely diffident, and I realized that a necessary procedure for the treatment of tuberculosis by heliotherapy was being inaugurated and would ultimately dominate the practice of many of us, not all, provided the patients could have access to institutions where the same could be carried out. But on account of the extreme humidity and the great number of days on which there is lack of sunshine and possibly our low altitude, I am wondering whether we of the State of Iowa can hope for the same results that have appeared in Rollier's work. One further thought in connection with this matter is this: If all true hygienic measures, of which heliotherapy must be considered an important factor, can be carried out thoroughly, we may hope in a very large percentage of cases to see cures take place without operative interference. Now, that is not saying that early operation should not be carried out as has been set forth here today, provided our patients cannot have the benefit of proper hygienic and heliotherapeutic measures. But I do believe that operative interference in the instance of surgical tuberculosis is going to tend ultimately to pass more and more into the background.

Dr. Steindler—I am thankful to Dr. Cokenower for having mentioned some points in regard to the operative treatment, and to Dr. Jepson for referring to heliotherapy as applied to these conditions. I have attempted to cite two authorities, one Reiner and the other Rollier, both very conservative in regard to the treatment of surgical tuberculosis. Rollier hardly operates at all. Whether or not he recognizes the few points of urgency as formulated by Reiner and adopted by others in the cases of children I cannot say, but it is true that operative indication in children arises very rarely. When it does arise it is dictated by certain complications which carry great weight of emergency with them. When operation is not performed at the proper moment in these cases it becomes futile. As regards heliotherapy, I want to point out that Rollier insists that the high altitude of Switzerland is not absolutely necessary to the carrying out of this treatment, but that it could be effectively carried out in the low lands, and we have

numerous reports of heliotherapy being carried out in low altitudes. I have no statistics as to how many days or hours of sunshine we have in Iowa, but from the small series of cases that I have treated with heliotherapy I feel encouraged to the extent that I would not dare to deny heliotherapy to a case of surgical tuberculosis if it could be accorded to it.

SOME AURAL COMPLICATIONS OF ACUTE EPIDEMIC PAROTITIS*

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Acute epidemic parotitis is one of the most common diseases of childhood and one which has long been regarded with little concern. Occurring in adults, however, its presence excites a little more apprehension because of the complications, which sometimes arise—chiefly orchitis or oophoritis. Aural complications of this disease are not common, yet occur in a sufficient percentage of cases to warrant our consideration. The aural complications which have been most frequently observed are (1) acute suppurative otitis media; (2) auditory neuritis, occurring either (a) through the meninges or (b) through the middle ear; (3) labyrinthitis. It will be my purpose to consider briefly the last two of these complications, particularly the last.

Before presenting this study may I note a few points regarding the disease itself, which will put us all on a common ground.

Etiology—Mumps is an acutely infectious and contagious disease whose etiological factor is still in dispute. Much work has been done to isolate a causative organism. Ollivier (1), in 1885, published the results of his researches which confirmed the work of Capitan & Charrin by which he concluded cocci, single and diplococci, were constantly present and probably the causative factor of mumps. Laveran & Catrin (2), in 1893, secured a diplococcus in sixty-seven out of ninety-two patients, by examining the parotid, and the spinal, pericardial and peritoneal fluid. Michaelis (3), in 1897, secured bacteria from Steno's duct, from the parotid, and in the blood. Cocci were also found. He believes the bacteria to be the etiological agent. Osler (4), in 1912, states "the virus is unknown" but in 1913 seems to accept the work of Laveran & Catrin as worthy of endorsement. Herb (5), in 1905, carried out extensive work in the Memorial Institute for Infectious Diseases, Chicago, using dogs and mon-

keys, and secured a diplococcus culturally identical with that of Laveran & Catrin, and states that it is her conclusion that this diplococcus is the cause of mumps. Wollstein (6), in 1915, working at the Rockefeller Institute used cats, and by work apparently as painstaking as that of Herb arrived at the conclusion that the causative factor of mumps is a filterable blood borne virus, bacterially sterile by present cultural methods and ultra microscopic.

Period of Incubation—This is long, usually two to three weeks, sometimes as long as six (Osler & McCrae (7)). It is important that this be kept in mind because some of the complications, the ones we are to consider, may arise before the appearance of the parotitis. The infection probably enters the parotid by way of Steno's duct, though there is evidence that it enters by way of the respiratory system, digestive system, and through the blood or lymph, to the parotids.

Nature of the Disease—Concerning the disease itself there is not much to be emphasized here. It is a diffuse infiltration of the parotid gland, with very little tendency to suppuration. Suppuration may occur, however, possibly due to a secondary invader.

Two views of the nature of the disease prevail—the distinction being more or less an academic one. First, that mumps is a general infection of which the parotitis and the so-called complications are merely separate and distinct manifestations. The predominance of certain localizations, *i. e.*, parotid, testis, ovary, etc., is due to unusual susceptibility. This view is held by Combeau (8), Brunner (9), Leichenstern (10), Hubbard (11), Alt (12), Colin (13), and others. The second view is that the parotid is the original site of infection, and the affection of the other parts, or the complications, are metastatic in nature. So far as I have been able to learn the majority of internists today incline to this latter concept. With the establishment of the fact that the virus is blood borne (Ollivier, Laveran & Catrin, Michaelis, Herb, Wollstein), there is not really much difference between the two views.

That conditions strongly resembling clinical mumps in the human, with pathological changes in parotid gland and testis identical with those of mumps, can be produced by the injection of bacterially sterile blood serum of patient's ill with mumps into the parotid and testis of healthy laboratory animals has been definitely shown (Woelstein (6)).

Complications—The important fact about the disease, which concerns us as otologists, is the

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marked tendency to complications. The most common are, of course, orchitis and oophoritis. Mammitis, meningitis, neuritis, and labyrinthitis occur less frequently. Of these meningitis, auditory neuritis and labyrinthitis should interest us. At this time may I again mention the other aural complications—otitis media, serosa and suppurative, and note that these occur usually only when there is a suppurative process in the parotid. Meningitis, auditory neuritis and labyrinthitis occur when there is no suppuration present.

The clinical picture which we shall consider at some length, is relatively rare, *i. e.*, sudden profound deafness, either unilateral or bilateral, appearing usually with a fairly definite chain of symptoms.

Frequency—Early literature on mumps and on ear diseases contain no reference to mumps deafness. Thus the work of von Rochard (14), 1750, von Dogny (15), 1828, von Leitzen (16), 1837, all dealing with epidemics of mumps in army garrisons with thousands of cases, do not mention deafness as one of the complications (Seligsohn (17). Kramer's (18) Text on Ear Diseases in 1863 contains no reference to mumps deafness. Vogel (19), writing on aural diseases in Ziemsen's cyclopedia, a year or two later, does not mention the condition. When Toynbee (20), in 1860, reported a case and gave us the first post-mortem findings, and stated that the "poison of mumps is very often the source of complete deafness" he gave impetus to several similar observations. Hinton (21), 1874, placed mumps next to scarlet fever as a cause of deafness. Roosa (22), in 1881, in discussing two cases reported by Buck to the American Otological Congress, stated he had seen so many cases, that mumps "caused him great concern." Brunner's (23), rather caustic comment published in 1882 after Roosa's statement, asked that the profession be shown the "great frequency" alluded to by Roosa. Later, in 1883, Roosa (24), retracted his statement and reported only ten cases out of 5,000 ear cases studied. Dalby (25), in 1883 (Roosa), said that mumps deafness occurs in a very large number of cases. Buck (25), in reporting two cases regarded the condition as very rare. Seligsohn (27), also, in 1883, insisted that the condition is rare and questioned the broad statements made by the above men. Pierce (28), in 1885, collected forty cases seen by him in thirteen years of practice, but reports only four of these. Texier (29), in 1902, collected a series of thirty-four cases. Mygind (30), gives mumps as the cause of deaf-mutism in 0.3 per cent of cases in Saxony, and 0.5 per cent in America (Boot). Buerk-

ner (31), in the Goettengen Clinic (Weinstein) gives mumps as the cause of labyrinthine deafness in 2 per cent of the cases. Lake (32), 1905, and Barr (33), *ibid*, state it is "frequent" but cite no statistics. Hubbard (34) 1910, estimates 3 to 5 per cent of all deaf mutes in United States as due to mumps. Radin (35), 1918, in 5,000 cases of mumps at Camp Wheeler reports twenty cases of ear troubles, all otitis media suppurativa, and none of labyrinthitis.

Since 1881 a number of cases have been reported and a few fairly comprehensive reviews of the subject published. Chief among these we would mention the articles by Buck, Roosa, Seligsohn, Pierce, Connor (36), Minor (37), Texier, Boot (38), Hubbard, and Weinstein (39).

The type of cases to which we wish to limit our discussion is well described by Boot. "Cases in which the labyrinth is involved in the course of mumps, not by a suppurative process, nor by the extension of a middle ear process to the labyrinth, nor by an extension of an inflammatory process in the vicinity of the ear, but apparently by metastases or by a primary localization of the disease in the labyrinth."

This history of these cases is substantially as follows: At some time during an attack of mumps, the patient who may have had no previous ear trouble suddenly discovers that hearing in one or both ears is impaired, or may be suddenly gone, *e. g.*, overnight. This may be the only symptom. In certain cases there is tinnitus, vertigo, nausea, and vomiting indicating involvement of the static labyrinth. After a varying period of time the accompanying symptoms subside, but as a rule the deafness persists. If bilateral deafness occurs in early childhood it usually results in deaf-mutism.

Cases of this type have been reported by the following authors: Roosa (24), six cases; Minor (37), Heilskov (40), Hubbard (11), Pierce (28), four cases each; Knapp (41), Moos (42), Alt (12), three cases each; Hodgson (43), Buck (26), Noyes (44), Tsakyroglous (45), Kipp (46), Lake (32), Crockett (47), Burnett (48), Dreyfuss (49), Willcutt (79), two cases each; Connor (36), Lemoine & Lannois (50), Seitz (51), Brunner (9), Field (52), Dalby (53), Pomeroy (54), Buerkner (31), Harlan (55), Foster (56), Kayser (57), Dempsey (58), Haug (59), Brieger (60), Urbantschitsch (61), Hail (62), Boot (38), Shambaugh (63), Cheatham (64), Gruening (65), Duel (66), Mauther (67), Haike (68), Jollye (69), Calmette (70), Moure (71), Seligsohn (17), Sewel (72), Weinstein (39), Wilson (73), Albright (74), one case each.

In all to date, so far as I am able to find, eighty-one cases have been reported. The case I wish to report to you at this time makes eighty-two cases. The majority of these cases I have been able to find as originally reported. A few I have accepted as reported by writers in reviewing the subject. Grandinigo (34) (Hubbard), Yearsley (39 Weinstein), Barr (33), Alt (12), Baruch (75), and Bliss (76), each report cases of deafness due to mumps, but give no data on the findings.

Case Report—E. D., female, nineteen, teacher. Seen first May 31, 1918. Her family and previous medical history are excellent. In January, 1918, had bilateral mumps. Five days before appearance of parotitis her right ear suddenly felt as if "something had passed over it" and she noticed that the ear was deaf. There was tinnitus but no dizziness at the time. There was slight pain in the right ear three days later, only slight and for short time. On the fifth day of the deafness the parotitis appeared, at which time she was dizzy and nauseated but did not vomit. Dizziness worse when lying down. Tinnitus persisted. She felt always as though falling to right, did so in the night on attempting to walk in the dark. The dizziness lasted for ten to twelve days. When seen in May, 1918, examination showed: Hearing right 0. Drum slightly retracted, ossicles freely movable. Rinne negative (probably heard in the other ear). No air conduction. With Barany's apparatus in sound ear no tuning fork could be heard. A careful examination by Mr. C. C. Bunch, Research Associate in Psycho-physics of Otology in the University of Iowa, of the complete hearing range from sixteen double vibrations to 49,000 double vibrations showed total deafness, right, except for a tone island between 10,922 to 20,480 double vibrations.

The caloric test showed the right labyrinthine function impaired—water at 64 degrees for 90 seconds produced slight rotatory nystagmus and tendency to fall and past point to right. Prolonged irrigation produced only slight dizziness and slight nausea. A caloric on the left, or sound side, produced normal reactions in sixty seconds, including marked dizziness and nausea.

This case has remained under observation for nearly two years. In that time she has had several attacks of vertigo, more or less severe. In some there has been nausea and vomiting. In all except the last she has noted a tendency to fall to the right; if walking keeps bumping into people or objects at her right, and in two or three attacks has required support to keep from falling. In the last attack, October, 1919, she did not note the direction, but said it was not so definite as formerly. I saw her during this attack. She complained of great pain in her head, arms and legs. She was not comfortable in any position, but seemed best sitting with the head inclined forward about sixty degrees. Opening the

eyes made the dizziness so much worse that it was impossible to observe nystagmus, though nystagmoid movements could be seen beneath the lids. Upon forcing the lids open, the eyes were seen drawn clear over to the left, that is, toward the sound side. In about three hours the acute symptoms had subsided and the patient was able to go about as usual. Examination the next day showed the deafness still present, static labyrinth still active, but much less so than when the caloric was first done. No spontaneous nystagmus. Tinnitus still persisted.

April 16, 1920, she reported that there had been no dizziness since October, but that the deafness and tinnitus remained unchanged.

May 7, 1920, she had another very similar attack with similar findings, the attack lasted about three hours. This attack was followed on May 10, by a slight attack lasting two hours. No vomiting. A caloric on the right ear shows the reactions about the same as in October. A caloric left shows the labyrinth functioning. An examination on May 11, by Mr. Bunch, shows the tone island of May, 1918, changed. Now hearing the Galton whistle from 7,000 to 8,000 dv. and the Koenig cylinders from 12,000 to 36,000 dv.

An analysis of all the cases reported brings out a few points of interest. Of the eighty-two cases forty-three are female, thirty-two male, and seven the sex not stated. Of the eighty-two cases, fifty-two are unilateral; right and left sides about equally divided; bilateral, thirteen; while in seventeen it is not stated whether unilateral or bilateral. The preponderance of unilateral cases is one source of gratification.

Thirty-four of the cases are in the decade between eleven and twenty years; thirteen below the age of ten. In a number the age is not stated.

The deafness appears at varying periods, from the first day of the mumps until the sixteenth day, usually about the fifth to eighth day. In only four cases, one reported by Heilskov (40), one by Lemoine and Lannois (50), one by Minor (37), and my own, did the deafness appear before the parotitis. In all but two, where stated, the onset was sudden, although in some cases this point was overlooked because being unilateral the deafness might not have been discovered if only the cochlear portion of the labyrinth was involved. Vertigo was noted in forty-nine cases, tinnitus in forty-six. Their presence is much more constant in the cases observed in later years, where the records are more complete. Earlier cases at times report a "staggering gait," but say nothing of dizziness or tinnitus.

Pathology—The site of the lesion and the nature of the pathology have been, in the absence of careful post-mortems, necessarily matters of dis-

pute. So far Toynbee (20) has the only recorded case where the pathology was definitely determined post-mortem. He found hemorrhage into the labyrinth. With the refinement of labyrinthine tests that has come about the past few years more definite data will undoubtedly be collected. Auditory neuritis or acute exudative labyrinthitis, either serous or hemorrhagic, or both neuritis and labyrinthitis seem to be the most probable pathology. A few observers have considered the lesion wholly of the middle ear, but an analysis of the cases they present shows that the cases are not of the type under consideration—usually they are suppurative. Among those who regard auditory neuritis as the pathology we find Connor (36), Roosa (24), Buck (26), Politzer (77), Heilskov (40), Stein (78), and others. Some of these regard the neuritis as descending, *i. e.*, from the meninges toward the labyrinth, while others consider the neuritis ascending, from the labyrinth toward the brain center. The great majority of later observers regard the labyrinth as the seat of the lesion. Buck (26), Vogel (19), Hinton (21), Foster (56), Hubbard (34), Harlan (55), H. Knapp (41), Moos (42), Brunner (9), Seitz (51), Toynbee (20), Alt (12), Minor (37), Willcutt (79), and Boot (38), are among those that favor the labyrinthine lesion. In my own case I am certain the lesion was undoubtedly labyrinthine.

The cases are divided into three classes from the standpoint of pathology:

(a.) Those in which the cochlear fibres only are affected. These cases note only sudden, complete loss of hearing. If unilateral, it may be some time after deafness really occurs before it is discovered. Tinnitus aurium is quite common. There is no pain. In my own case, an unusually intelligent young woman, at first the only symptom noted was as though some one had simply "passed something over the ear so she could not hear." Later the process extended to the static labyrinth producing the dizziness, staggering gait, nausea and vomiting, as reported above.

(b) Those in which the static labyrinth only is affected. These cases get all the symptoms of labyrinthitis, vertigo, staggering gait, tendency to fall toward the affected ear, tinnitus, nausea and vomiting. Recent cases may show nystagmus. The distressing symptoms usually subside in a variable period—from a few days to several weeks. Caloric tests made after subsidence of acute symptoms show the static labyrinth to be dead or its function greatly ablated.

(c) Those in which both are affected. These

cases usually note first the symptoms of labyrinthitis, occasionally also the impairment of hearing, but more frequently this latter is not discovered until the acute labyrinthine symptoms subside. In the case just reported this order was reversed—the loss of hearing was noted first with only slight static labyrinthine symptoms, but later, after hearing was totally lost, static labyrinthine symptoms developed over a long period of time. The only possible explanation for the number of brief attacks of vertigo, nausea and vomiting from which the patient suffered, would be that the labyrinthitis, after the destruction of the cochlea, was temporarily circumscribed in the semi-circular canals. Each fresh extension of the process was marked by an exacerbation of symptoms, which subsided as soon as the extension was stopped and compensation established.

What is the nature of this labyrinthitis? In most cases evidently something acute, rapidly fulminating, reaching its peak in a short time. Coming as a complication of mumps—which is a rapidly swelling parotitis with little tendency to suppurate—comparing it to the orchitis—again a rapid swelling with little tendency to suppurate, and followed by tendency to atrophy—the most obvious explanation is that here is a rapid serous exudative labyrinthitis, in some cases probably hemorrhagic, as in the case reported by Toynbee (20). If we consider the anatomy of the labyrinth—a delicate nervous structure within a membranous capsule, and this again enclosed in a dense bony capsule with only four points that can relieve the pressure—the two fenestræ, the saccus endolymphaticus and the internal auditory meatus, we can readily see how a small amount of exudate could cause serious trouble. A few cases recover, in these the amount of exudate is small—and it is probably serous. Reasoning by analogy from the known pathology in the testis following the acute inflammation, we may safely assume that atrophy of the delicate nerve fibres in both cochlea and static labyrinth occurs.

Mode of Infection—So long as the exact etiological agent of mumps remains unknown or at least not agreed upon, there will be difference of opinion regarding the transmission of the virus from the parotid to the other organs affected. A brief review of these theories will be given. One theory was that of direct transplantation. This was evolved first to explain the occurrence of orchitis. The virus would travel from parotid to saliva, lips to hand, then to penis, up urethra and into the testis. In the ear this would occur by the virulent saliva working its way up the eustachian

tube to the middle ear, through the fenestra ovale into the vestibule and into the inner ear. Minor (37), Seligsohn (27), Cruveilhier (80) and Mosler (81) have championed this view.

Another theory is that of direct extension from the parotid, to the middle ear, thence to the internal ear by direct continuity of structure. Most of the cases considered as a basis for this theory were suppurative. Roosa (24), Seligsohn (27), Vogel (19), Connor (36), Juergens (82), and Ballenger (83) have endorsed this theory.

A third theory is that the infection travels from the parotid to the internal ear by way of the vessels or nerve sheaths, or through the fissure of Santorini—a retrograde infection, depending upon direct anatomical connection. Some of those who regard the nerve as the path of the infection consider that it travels along the sheath of the facial until it reaches the sheath of the eighth, and then in the eighth either sets up a neuritis of the trunk, or, descending, involves the terminal filaments in the labyrinth. Vogel (19), Politzer (77), Virchow (84), Eloy (85), Alt (12), and Buck (26), are among the proponents of this theory.

Still another theory is that in cases of labyrinthitis there may be a preceding meningitis of the base near the exit of the eighth, and the meningitis becomes a neuritis by direct extension. Cases of meningitis due to mumps have been reported, particularly by Kaunitz (86). Heilskov (1917) (40), proposes this latter theory.

The most widely accepted theory of the mode of involvement of the labyrinth, and the one that is accepted by the majority of those studying labyrinthine deafness, and the one that seems most logical in view of the nature of the disease itself, and the other complications, is that it is a purely metastatic lesion, blood borne. Moos (42), Brunner (9), Barr (33), Weinstein (39), Barnhill & Wales (87), Boot (38), Hubbard (11), Kaunitz (86), and Braun & Friesner (89), are among those who believe this to be the proper theory in most of the cases. Why the internal ear should be selected as one of the infrequent sites for the localization of a metastasis is no more settled than is the reason for the orchitis being so frequently right sided. Certain it is that the eighth nerve is the most vulnerable of the cranial nerves.

Whether we accept the explanation of Moos (42) that metastasis occur in organs with "complicated, richly anastomosing circulation" or Hubbard's (11) theory that the virus is present in all the circulation, and that it produces symptoms only in those organs which are contained in a

more or less "unyielding capsule" is a matter of personal reasoning.

Prognosis—This is usually bad as regards recovery of hearing. The vertigo and nausea usually subside in a few days, but deafness usually is permanent. The limited number of cases seen by otologists early after the appearance of the ear symptoms with the consequent lack of opportunity to study the cases or to try treatment has contributed to the gloomy outlook. Cases are usually first seen by the family physician, and unfortunately the aural symptoms are too often overlooked or regarded in the wrong light, *e. g.*, the nausea and vomiting have been ascribed by very recent observers as due to a testicular reflex, resulting from an orchitis.

Cases of deafness which have recovered are probably cases of slight serous labyrinthitis. In some of them the character of the treatment and the improvement resulting makes one doubt the diagnosis.

Treatment—First preventive: Since the mumps, as a rule, precedes the ear complications such measures should be taken as are taken to prevent metastasis from occurring—bed rest, light nutritious diet, free elimination. After the labyrinth is invaded treatment seems unavailing. In the earlier cases, the old reliable K. I. was given in full doses—and some cases noted as improved, but none cured. In these cases lues was not excluded. Pilocarpin, hypodermically, pushed to the physiological limit has been recommended by many—chiefly Dundas Grant (88), Sauther (90), Jollye (69), and Yearsley (39). The latter two report a case each as completely cured. More recent cases, in which more accurate localization of the lesion has been possible, have had pilocarpin tried, without any improvement.

CONCLUSIONS

1. Deafness, unilateral or bilateral, may occur as a sequel to mumps. This is usually sudden, profound and persistent.
2. The site of the lesion is probably in the labyrinth. In nature it is probably a serous or hemorrhagic exudative affair.
3. More opportunity for study is needed by the aurists.
4. Treatment except preventive is probably without any particular value.

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THE WORK OF WOMEN PHYSICIANS DURING THE WAR*

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We are proud of those physicians who hastened to obey the call to join the Medical Reserve Corps. It was composed of men who were willing to sacrifice their private practice and personal welfare when our country needed them. We honor the M. R. C. for the work it accomplished; for its bravery and its sacrifices. The casualties of the M. R. C. are second only to those of the infantry. Fighting troops never showed finer courage than that shown by medical officers, whether in hospitals, bombed by aeroplanes, or on the fighting line rendering first aid.

Nurses were invited to join the army early in the war. Commissions were denied them, but they did the work of their own profession. Dr. Gregory Stragnell of New York said the recovery of the average wounded man depends more upon intelligent nursing than upon any technical procedures of the surgeon in the operating room.

To the American school boy who saved and bought a war stamp, and the English "canary girl" who worked in munition factories until the chemicals permanently colored her skin, to the doughboy who made the supreme sacrifice, and to all others who helped win the war, our country with the allied countries give grateful praise.

"Woman's heart beats responsive to the same impulse that prompts man to noble deeds." Women physicians were not admitted to the Medical Reserve Corps, so they began to see what they could do with their professional training.

In England, long before our country entered the war, women were refused admission to the Royal Army Medical Corps. Following in the hallowed footsteps of the women pioneers, they determined to unite their efforts, and supported by the women of the British Empire, they offered their services to France, Belgium and Serbia. These countries received them with deepest gratitude. Most of them received medals of honor for their devotion to duty and ability, and in this our American physicians have shared.

This united work was conceived in the brain

of Dr. Elsie Inglis. Dr. Inglis was born in India of Scotch parents. She received her first medical education in Edinburgh. Her pioneer work in helping other women to study medicine is one of the great things she has accomplished as well as her work for suffrage. Her ability in many lines is dimmed only by comparison with her achievements during the war. Those who watched the gathering war cloud did not realize the important changes that it would make in the future history of women. They were to be called upon to take the place of men who were dying by the thousands for their homes, and fighting against the doctrine that military force is the only true government. She went to London and offered trained women for medical service, and the historic reply was made "my good lady, go home and sit still." She went home and talked it over with her family, and said to a niece, "I know what we will do. We will have a unit of our own." The "we" referred to her suffrage workers and friends. By October, 1914, the name of Scottish Women's Hospitals was adopted and plans matured. She was sent to London and they were soon busy raising money for new units.

After England was shown what these women physicians were doing and could do abroad, they were asked to return home, and were given charge of large military and civilian hospitals. They were given the pay of captain and two women in charge of an Endell St. Hospital were given the honorary rank of major. Many hospitals had only women physicians on their staffs, due to the shortage of men. One unit began work in 1914 at the Abbaye de Royamont near Paris. One was at Sallanches, France, for the Serbians. One in Corsica for refugee Serbs. Three units were given to the Serbian Army early in the war and worked through a terrible typhus epidemic. They had so little to work with in some of the temporary hospitals that the hazards to them of disease were fearful. Many worked practically continuous for weeks, owing to the lack of help and the great need. One woman died of typhus. A unit was stationed at Salonica for three years. It was a 200 bed hospital entirely in tents. It worked as a military hospital, first in France, and was then sent by them with the French Expeditionary Forces when they went to the aid of Serbia. At first the Senegalese as well as others came in with frozen feet, when the hospital was in the mountains. Retreat was necessary and the hospital was set up at Salonica. In the summer of 1916 there were 300 beds, with an epidemic of malaria and dysentery. That winter the hospital was full of wounded French, Serbians, Russians,

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Albanians, and Senegalese. In 1917 the need of a hospital for disabled soldiers was seen. Two hundred beds were added for an orthopedic section. The funds were a gift from India and it was called the Calcutta Orthopedic Centre. They had no expert workmen as teachers for trades, and had only women members of the staff. French and British were also treated here although it was only intended for Serbs. The entire hospital has been administered, the discipline, surgical and medical treatment, all done by the women. It was the only orthopedic hospital in the Balkans. Only those who have cared for wounded Serbian soldiers can realize their nobility of character and their gratitude for all that was done for them. Dr. McDouglas and Inglis were taken prisoner by the Bulgarians. Subsequently Dr. McIlroy was left in charge in Serbia and Dr. Inglis and Dr. Gladys Ward went to Odessa. Dr. Inglis only lived a short time after her return from Russia, dying from hardships and disease.

In December, 1917, the National Women Suffrage Association of the U. S. agreed to support a woman's hospital unit in France. February 17, 1918, this group sailed. Many of them were physicians from the New York Infirmary for Women and Children. They offered themselves through the French High Commission and were accepted at once by the French Government. One-half of the group were sent to Chateau Ognon. It was receiving wounded from the first line dressing stations. In thirty-six hours 600 men were brought in. The women at first prepared the men for operation and changed dressings. By the time of the next drive their skill was seen, and they were installed as operating surgeons. Their record equalled the men. The hospital was on the road to Paris for bombers. A bomb was dropped in a ward one night, killing eighteen and wounding twelve men. For their bravery in working under fire the three women surgeons and head nurse were decorated with the Croix de Guerre. Their bacteriologist was loaned to the laboratory at Le Mans which did the work for the 4th Region. Dr. Pvitzky remained until the armistice, and it was officially reported that she had released four men for service at the front. Dr. Edwards, Dr. Anna Sholly and Dr. Caroline Finley were the doctors here with a nurse and seven aides. Soon the government asked the rest of the group to go to the south at Labouhere to establish a hospital for refugees. Dr. Alice Gregory reached there in April and by July a hospital of twenty-five beds had been built and equipped. The women purchased the equipment and the

barracks were built by German prisoners. Dr. Marie Formad became director and it was now enlarged to 125 beds. Women's hands did the work of placing electric lights, sinks, running water, stoves, closets, and much furniture in each room. In July there was a call for a hospital for gassed soldiers. Dr. Alice Flood, Dr. Le Fort, Dr. Morse, Dr. Bruyn, and Dr. McMahon were the doctors in this unit. Two nurses died of influenza on the way over with this group. Every nurse and doctor was made ill by the gas, and some had pneumonia. They served at Cempuis two months. The night of the armistice the last group of men were received, many of whom were blinded. Grip was also raging and medicines were short. After the armistice this unit opened a hospital for refugees at Nancy. As they had a woman plumber, who had been transferred from Labouhere, they were very fortunate, as the men had not yet returned. This hospital building had been hit by a bomb, and its heating, lighting, and plumbing had all to be inspected and repaired by this woman plumber. During January, February and March this hospital was the refuge for the women and children of Lorraine. Exhausted by slow travel, half-starved, and ill, they came from France or from exile in Germany. There were 400 patients, ninety-seven operations, and eighteen births. Weekly dispensary visits were made to twenty-five or thirty villages. The entire unit shows 19,307 cases for three months. After the armistice, Dr. Finley and her group were sent to Germany. At Metz they were given charge of 150 beds filled mostly with pneumonia and grippe cases. These were English speaking soldiers at first, later they had French and others. At the end of December they were sent to Cambrai to give medical care to nearby villages. They had thirty villages. Refugees were coming back at the rate of 1000 and 1500 a day. Dr. Finley was now sent to Germany on account of an epidemic of typhus. A camp at Greisheim was established as a quarantine and she was given charge of the women and children. It accommodated 10,000 people. Dr. Edwards and the nurses with Dr. Finley were asked to establish two hospitals of eighty beds each at Caudry and LeCateau.

The gas unit was sent to Rheims about April 15; 20,000 homes had been destroyed. There were no lights at night, no car lines, no stores. By June 1 a hospital was formally opened. This continued until September and was one of the best organized hospitals for civilian relief.

The Women's National Medical Association was organized, and in June, 1917, they appointed a war service committee. This was incorporated

under name of The American Women's Hospitals. Dr. Tracy, dean of the Women's Medical College, Philadelphia, is the president of the W. N. M. Association for 1920. Up to August 11, 1919, they had received \$338,560.10. They had sent 128 women physicians abroad besides other lay women. They have supplied many affiliated organizations with physicians paying for the personal equipment of some of these. The balance on hand March 31, 1920 was \$68,859.42. They gave recently to the committee for devastated France, the hospital at Blerancourt, France. The equipment and buildings are estimated to be \$30,000 in value and they gave \$7,000 cash. One of the brightest pages in the short history of the A. W. H. is the record of Unit No. 1, which was established in northern France. It covered a period of work from July 28, 1918 to January 31, 1920. They installed a hospital at first in the Chateau at Neufmoutiers as a hospital for refugees. This was followed by one in the Chateau at Luzancy with dispensary services. This was finally removed to Blerancourt. The work here consisted of extensive vaccinations against typhoid and small-pox, examination of school children, removal of tonsils and adenoids, and dental prophylactic work. Dr. Charlotte Fairbanks was the surgeon. There were three dentists remaining with the unit, Drs. Doherty, Ward and Kinney. Dr. Doherty has given fourteen months to this service, and performed 4,480 operations on 1195 cases. The motor service is entitled to great credit for efficiency. The head chauffeur was a Scotch girl ably assisted by five American girls, and later three English girls who remained. Dr. Barbara Hunt, Dr. Louise Hurrell and Dr. Bonness were directors. A tablet commemorating the work of the A. W. H. is to be placed in the town hall at Blerancourt. A total of 1,145 patients were cared for with 15,224 days of hospitalization. Eight hundred eighty-three surgical operations were performed. Fifty-five dispensary centers with 198 villages were cared for. Four thousand nine hundred fifty-five dispensary calls are recorded, and 8,613 hospital visits were made; 5,476 dental patients were cared for. This shows that over 22,000 were given medical care by this unit.

Dr. Regina Keyes and Dr. Mabel Flood opened a hospital at Voden, Greece in 1918 and later moved to Monastir, Serbia. They ran a dispensary in connection with the latter hospital and averaged 3000 persons a month. They had a hospital of sixty beds and usually seventy patients, the children being two in a bed. All the work of supervising was done by these two physicians,

and one nurse Miss Jessup. They were able to teach the Serbians to do everything. It was one of the best hospitals in the Balkans, \$25,000 was given by the A. W. H. for its support. Dr. Flood and Dr. Keyes have just returned to the U. S. The native help scrubbed the floors daily, nursed the patients, did surgical dressings, and prepared the patients for operation ready for Dr. Keyes. Dr. Williams and Dr. Mitchell have done fine work in Armenia. Dr. Mitchell's duty was general supervision of three hospitals with 700 beds with Armenian doctors and nurses in charge, and supervision of the medical inspection of the orphanages. They reached Constantinople, March 8, 1919. Six women physicians were sent out to work under the committee for the near East, but the salary and expenses of these two were paid by the A. W. H. Where Dr. Williams was located there were 2000 in orphanages and 2000 homeless children. Medical work has been begun at Trebizond also.

The work in Serbia recently has been done with the Serbian Child Welfare Committee. Mr. Doherty, commissioner, of this committee, has recently returned and reports in Chachak he found a very serious condition of affairs. The Serbian Government had turned over a large building, capable of holding some 400 or 500 children but it was devoid of furniture, and very dirty. There was a crying need for the care of thousands of orphans and sick children. Dr. Ridout, Dr. Caven, and Miss Gregory, a nurse, came. Dr. Ridout, at the head of a gang of Bulgarian war prisoners, scrubbed the filth from every room, and spent her nights caring for the sick children. She is the executive in charge of the institution, and has the medical care of 200 sick children there. Dr. Evangeline Caven has charge of an orphanage at Vrange. Dr. Bercea, the dentist, is reported to have treated 480 patients during her first twelve days of service. Dr. Caven is a tireless worker. She superintended cleaning the floors, setting up beds, and bathing children. She could not walk the streets of the town without a following of women and children, endeavoring to show their appreciation. Dr. Laura Myers of Los Angeles was stationed at Pristina and has recently returned. Dr. Etta Gray of California sailed for Serbia on August 4, 1919. She will remain another year. She has opened a hospital and nurses training school at Veles. According to the last reports which were written in February from 100 to 250 patients were being treated every day in the dispensary connected with this hospital.

At Pristina the government is trying to prevent

the spread of venereal diseases, by providing treatment of women who have become affected. Dr. Tognizinni arrived in Serbia just in time to do this work, and the surgery. Dr. Alice Barlow Brown of Chicago, who was two years in France during the war has gone there and will have charge of the children's work. Dr. Bonness has gone to Scoplje, Serbia, where a health center will be located. They have opened hospitals in Turkey, Armenia and Serbia, in cities which I can neither pronounce nor remember how to spell. I recommend that we serve the needy European children a while longer, by helping send these women physicians of America to do this wonderful work.

EARLY RECOGNITION AND TREATMENT OF INTUSSUSCEPTION*

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I have chosen this subject because of the great mortality in those cases which are not recognized early, and are brought under the care of the surgeon when practically moribund. In this paper I will refer only to the acute type, though there is a chronic form, in which early diagnosis and treatment is not so urgent.

Intussusception is an invagination of a part of the gut into its own lumen. Mucous membrane is thus brought in contact with mucous membrane, and peritoneum with peritoneum, forming three layers, entering, receiving and returning, the condition may be illustrated by pushing the end of a glove finger into the lower portion. It is more common in children, about one-third of the cases occurring during the first year, and nearly all cases before the tenth. The most common location is in the ileocecal region, the ileocecal valve forming the head of the intussusception. Most authors agree that the mechanism of intussusception consists of a local spasm of the intestine, drawing the gut up over a portion of the normal intestine. This invagination acts as a foreign body, causing further spasmodic contraction and forcing the intussusception further along. Pressure is brought upon the mesenteric vessels, producing engorgement of the tissues. A vicious circle is formed, resulting in more swelling of the tissues, and more constriction of the mesenteric vessels. Accompanying this process an exudation of lymph and fibrin takes place, forming adhesions between the layers of intussusception. With the complete cutting off the blood

supply gangrene will take place early. The bowel above also becomes distended with gas and toxic material.

In cases of early death from shock, there is little pathology beyond engorgement, but in the later stages a sausage shaped tumor markedly congested and indurated is found. Peritonitis, sloughing and necrosis may have taken place.

Among the exciting causes that may be mentioned, are, ingestion of irritating foods, contusions of the abdomen, chronic inflammation of the intestinal mucosa and the various tumors.

The symptoms of this condition are characteristic, there is a history of acute onset, consisting of violent colicky pains, which may or may not be localized; early and persistent vomiting in most cases; usually constipation or small frequent bowel movements with the tenesmus, but the most important symptom is the early passage of blood in the stools. The general appearance of the patient is typical, the expression being anxious, the features pinched and prostration early. There may be little or no fever, but the pulse becomes rapid and feeble. Examination of the abdomen reveals some distention and in many cases a sausage shaped tumor may be felt. Osler says this occurs in one-third of the cases during the first day. Rectal examination should always be made in suspected cases, because many times when there is no tumor palpable through the abdominal wall, the intussusception may be felt through the rectum.

Of all the internal obstructions in children, this is the most readily diagnosed. It must be differentiated from the various other forms of obstruction, acute appendicitis and meckels diverticulum, but especially from acute dysentery. However, the more violent the onset, the earlier the passage of blood. The presence of tumor are peculiar to intussusception. Microscopical examination of the bloody mucous of intussusception often reveals unchanged sloughs of intestinal epithelium, while that from dysentery is full of leucocytes and bacteria. There is also an initial fever in dysentery which is not present in acute intussusception.

The treatment has but one object, and that, to reduce the intussusception as early as possible. I believe that this can be accomplished in most cases during the first twenty-four to thirty-six hours in those cases in which pathological changes are not marked. One may attempt first, if the case is seen early, to reduce the intussusception by a rectal injection of a quart of lukewarm water or saline. The reduction is indicated by a rumbling sound, the disappearance of the tumor,

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relief of symptoms and possible copious bowel movement. Following this the case must be carefully watched as there is great danger of recurrence. The possibility of this is lessened by inhibiting intestinal peristalsis with opium. This together with liquid nourishment should be kept up for several days. Fishel says that there are practically no recoveries without intervention. A fatal result from shock may occur within one-half day of the onset, but as a rule it takes from three to six days.

One should not tarry too long in attempting this sort of reduction, because every hour of delay makes the possibility of successful reduction less and less. Once incarceration and adhesions are formed it is practically impossible to perform a reduction and protect the life of the individual. In all cases where there is not an immediate reduction by the above method, operative treatment should be instituted at once. The prognosis of these cases depends absolutely upon the early reduction. In those cases of intussusception reduced before any marked change has taken place in the gut, there should be a high percentage of recoveries.

Earliest possible reduction should be made in all cases because with delay:

1. The general condition of the patient rapidly declines because of increasing toxicity from the absorption of toxic material.
2. This class of patients, 'generally children, do not withstand shock following the radical operation made necessary by delay.
3. Delay adds to the possibility of strangulation and consequent gangrene.
4. Reduction is made difficult if not impossible if one waits until there has been considerable formation of lymph and fibrin.

Personally I have but three cases to report, one of which was not operated, one where there was some delay in operating, and a third where an immediate operation was performed.

Case 1. The patient, a ten months child was brought to the office of a practitioner in a small country town with the history of a sudden onset of severe colicky pains. Anodyne was given and the patient sent home. During the night, several enemas were given, and considerable fresh blood noticed in the stools. The doctor was called again, nine hours later, and the case referred to the hospital.

Examination revealed no tumor, and the child was apparently comfortable with a temperature of 99, pulse 140, and respirations 38. Following an enema, some more bright blood was passed.

This was not correctly diagnosed because of the absence of tumor, and the apparent ease of the pa-

tient, resulting from the anodyne, and was treated as an acute dysentery. The patient died on the third day, in a very toxic condition with a temperature of 102.2, pulse 2.6 respirations 42 and with no abnormal physical signs, other than a slight abdominal distention. Microscopical examination of the stools was not made. Post mortem examination revealed an ileocecal intussusception with marked incarceration of the telescoped bowel.

Case 2. A nursing baby of six months with a history of sudden onset of abdominal colic. When seen, the baby was screaming, with the knees drawn up on the abdomen, profusely vomiting, but with no fever. The doctor gave an enema with result of considerable bright red blood. The child became quiet in about twelve hours, excepting upon being disturbed. We saw the case in consultation, sixteen hours after the onset, and found considerable tenderness over the ascending and transverse colon, but no tumor either by abdominal or rectal examination.

We made a probable diagnosis of intussusception because of the history and operated. The head of the intussusception was found in the transverse colon, it being of the ileocecal variety. Some difficulty was encountered in reduction because of the agglutination. In order to prevent recurrence, the ileum was fixed to the peritoneum and opiates given to inhibit peristalsis. An uneventful recovery resulted.

Case 3. A six months boy with a sudden onset of screaming and drawing up the legs as if in great abdominal pain. A stool containing bright red blood was passed, soon after the onset. This case was seen an hour later with the above history, there was no fever, distention, vomiting or mass by abdominal palpation. Rectal examination, however, revealed a mass protruding into the rectum. This case was operated two hours later, and the ileum found telescoped about sixteen inches into the caecum. There was no agglutination or marked congestion, and the reduction was easily made with an uneventful recovery.

These three cases impressed me very much, in the first it would be interesting to know that if early operation had been performed, whether the patient's life could have been saved. The second, was operated in time to avoid a resection and the recovery was complete. In the third, where operation took place within four hours after onset, the results were best—the patient's general condition was good and the intussusception was reduced with practically no trauma, leaving the intestine in a normal condition. It was this case that impressed me, that if the diagnosis was made early, and the case operated with the patient still in good condition, and before the formation of adhesions that a very great percentage of the cases would recover.

In conclusion I would strongly emphasize the dangers of delay, and personally would not rec-

commend attempting reduction by medical treatment. I believe that with our modern aseptic technique, the certainty of reduction and the more probable prevention of recurrence by surgical intervention should make us hesitate to attempt reduction by medical methods.

Among the disadvantages of non-operative treatment there is first the danger of rupture of the bowel with consequent peritonitis. This perhaps is slight, but should be considered. In the next place one is not always sure that reduction has actually been accomplished. Third there is a frequent recurrence of intussusception, and opiates which tend to mask the symptoms, offer the only preventative.

Surgical treatment offers some distinct advantages: the first, being that one is sure either of accomplishing reduction, or if necessary more radical measures may be undertaken; second, a recurrence can more certainly be prevented by stitching the reduced gut to the peritoneum or shortening the mesentery; third, before relieving an intussusception in those cases of marked toxicity, one should aspirate the distended gut above, because as soon as the poisonous material strikes the normal intestine below it is absorbed much more rapidly, and floods the system with toxine. I do not believe that this procedure is necessary, exception in those cases of more than thirty-six hours duration, because the material as a rule is not very toxic in the early cases.

I would then advise operative treatment in every case of intussusception as soon as the diagnosis has been made. Do not wait for sausage shaped tumor to be present, to make the diagnosis.

My object in presenting this paper has been to urge upon the medical profession the necessity of early diagnosis and treatment, if we wish to prevent the extremely high mortality, certain to occur in all neglected cases.

Discussion

Dr. Geo. V. I. Brown, Milwaukee, Wisconsin—Last year I had the pleasure of addressing this body on a subject that I thought I knew something about. It is very clear to me that I could not undertake this time to discuss a subject that I know very little about. I believe, however, that we can turn this unfortunate circumstance into a fortunate one if you can induce Dr. Hugh Cabot of Boston, to lead this discussion.

Dr. Hugh Cabot, Boston, Massachusetts—I think I should be indeed ungrateful if, after such an introduction, I should not at least show myself. I want to congratulate Dr. Krause for having gotten to the meat of this question, and I think the best I can do is to add the weight of my testimony to some things he has said. I will disagree with him, violently, if

necessary, in one regard. He said that these cases should be operated upon as soon as the diagnosis is made. Gentlemen, they should be operated upon before the diagnosis is made in many cases. It recalls to my mind the early days of the now popular disease of appendicitis when a former teacher of mine heard a very distinguished surgeon say that the cases should be operated upon as soon as the diagnosis is made. He immediately jumped up and said, "You'll kill half of them if you wait until then!" It is perfectly true. Not at all do I wish to inveigle you to not make a diagnosis. The difference between modern and ancient medicine is that it has become less of an art and more of a science. We do, in fact, make a diagnosis largely because we are given sufficiently accurate methods of doing it and there is a field here, I think, for the application of different methods. My experience is not as large in this as is that of many others. In the last few years I have seen no children, having been absent from this country on the business of the war, but it is clear to me that there are many cases in which I can not feel there is anything abnormal in all this. A little ether will do none of the conditions with which this may be confused, harm. It will enable you to make a diagnosis early in many cases. Relaxation will enable you to feel the tumor and if you are in sufficient doubt to make you hesitate to go ahead, than give a general anesthetic to reinforce your courage. The difference between operating upon these cases early and operating upon them late is the difference between light and darkness. At the stage when they can be reduced, as Dr. Krause has described, by manipulation, the prognosis is excellent. At any other stage it is bad. It is not essentially different from the condition of acute intestinal obstruction from any cause. You all know that early acute intestinal obstruction does well, that late it does thoroughly bad and that later it does worse. If all these cases could be dealt with surgically within a few hours after they occur, the mortality would be insignificant. If all of them were dealt with from twenty-four to thirty-six hours after they occurred, the mortality would be high. The whole premium is upon diagnosis in the opinion of most people. It is upon recognition of the fact that every baby suffering with pain, with the regular symptoms, and a little blood, either has or has not intussusception. If he has it, you have to do something with him. If he has not, well and good, but the burden of proof lies upon those who will show that he has not some condition requiring surgical intervention. That is the point. We tend too much to think that the burden of proof lies upon those who will show that we should operate. The burden of proof lies with those who will show that we should not operate. Operate and save; failure to operate will kill; it is a clear one. We have only to think straight in a comparatively narrow field and if in doubt help ourselves with a general anesthetic. I think treatment other than operation has lost ground so rapidly that it need not be se-

riously considered. After all, it belongs to the time when we were afraid of the abdomen and regarded opening the abdomen as a serious business. There are a few tissues in the body which will stand more surgery than has taken place. The attempted reduction by enemata delays satisfactory treatment and to delay satisfactory treatment under these conditions is to assume a grave responsibility. As has been said, you are by no means certain what has happened. You are certain in the majority of cases that time has been spent which might well have been spent by the patient in getting well rather than by the surgeon in trying to make up his mind whether the patient is going to get well or not. That time spent in delay is time which does not belong to the surgeon, but which belongs to the little patient. That is his time; he is entitled to it. We are not entitled to it. The attitude of mind that waits and sees how it will be this afternoon is the attitude of protection to surgery but not to the patient. The patient is entitled to that time. We should be required to say when first these patients are seen, whether or not they have intussusception and we should spend as little time as possible in coming to the opinion. If really in doubt after every method of diagnosis has been tried, still the benefit of the doubt will remain in operation.

A DIET FOR PERNICIOUS ANEMIA

From the Research Laboratory of the Department of Internal Medicine, University Hospital, Iowa City, R. L. Fenlon, M.D.

As a result of experimental investigations carried out at this hospital the following diet was formulated. The experimental data will be published later.

Iron rich foods are given to supply organic iron to the body. Because a low gastric acidity or achylia is generally present in this disease, we recommend the giving of 10 c.c. of a 1 per cent hydrochloric acid after meals. After meals so as to more or less permeate the gastric contents.

The acid should be given through a glass tube to protect the teeth. Since the blood count is low, foods rich in nucleoprotein should be supplied. For this purpose, the various animal livers such as calf, beef and hog are used.

As some cases show some degree of kidney involvement, it is best to avoid foods mentioned in the sixth paragraph of the diet.

Diet follows:

Pernicious Anemia

1. Select foods which are high in iron as the fresh fruits, green vegetables, eggs, cereals and meat.
2. Give 10 c.c. of 1 per cent hydrochloric acid after each meal.
3. With the absence of free hydrochloric acid in the stomach, restrict the use of meat to once a day.

The meat should be run through a food chopper.

4. Allow 50-60 grams of protein per day (about 1 gram per kilogram of body weight); the fat only, which is found in the foods; and from 225-300 grams per day of carbohydrate—(1600-1800 calories per day).

5. With the above low protein intake select the complete proteins such as are found in eggs and milk or foods rich in nucleoprotein as the livers of the various animals.

6. Avoid foods which may be irritating to the kidneys as prunes, cranberries, plums, grapes, etc., and excessive amounts of meats, meat gravies, coffee and tea.

7. Drink plenty of water between meals.

List of Foods High in Iron—Fresh apples, bananas, dates, figs, oranges, oatmeal, beef, spinach, radishes, celery, cauliflower, beet greens, cornmeal, egg yolk, string beans, dandelion greens, tomatoes, carrots, strawberries, shredded wheat, liver, green corn, lettuce, cabbage, peas, canned and fresh peaches, pears, pineapple.

Typical Diet—Breakfast: (a) grapefruit, orange, banana, apple or apricots. (b) One egg. (c) Medium slice of toast. (d) Medium serving of cornflakes, puffed rice—small serving of oatmeal, rice or shredded wheat biscuit. (e) Glass of skimmed milk. (f) Sugar as desired.

Dinner: (a) Medium serving of potatoes—Irish or sweet. (b) One of the following vegetables. Medium serving of celery, cabbage or lettuce. Small serving of peas (mashed or pureed). Large serving of tomatoes or beets. (c) Medium slice of bread. (d) Glass of orange juice. (e) Two eggs or 50 grams of liver, beef or chicken. (f) Desserts. Large baked apple or three halves of canned pears or peaches. Salad of large serving of apple and medium serving of celery. Or pudding made of bread, rice or cornstarch. (g) Sugar as desired.

Supper—(a) Medium serving of potato or small serving of macaroni. (b) One thin slice of bread or four crackers. (c) One of the following vegetables: Small serving of lima beans (pureed); medium serving of tomatoes; large serving of asparagus or string beans. (d) Two egg yolks and one white. (e) One-quarter of a glass of milk. (f) Dessert—Gelatin, medium serving of fruit, tapioca pudding with fruit or rice custard.

I wish to state that the above diet is the routine pernicious anemia diet of the University Hospital. The same has been in use for slightly over a year and the results to date are encouraging.

CORRECTION

In a communication prepared by Lieut. W. S. Conkling which appeared in a recent number of the Journal, on the treatment of gonorrhea, the author's name was unintentionally omitted. The writer was Dr. Fleischman of Des Moines.

The Journal of the Iowa State Medical Society

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COMMUNITIES WITHOUT A PHYSICIAN

We have in former editorials commented on the lack of physicians in certain parts of the country. In some of the small villages and in thinly settled country districts, there are no doctors since the exodus of physicians to larger towns, this has been particularly observed since the war. We have communities in the condition existing in New England as set forth in an editorial in the Boston Medical and Surgical Journal, and in the South, as described in the New Orleans Medical Journal, and now comes the Virginia Medical Monthly in a discussion of similar conditions in small isolated communities and refers to a report of the Wisconsin State Board of Health which has received many letters, the writers of which are at a loss to know why skilled physicians are not made available for all localities regardless of their remoteness. They feel that the state should, when necessary, subsidize physicians and nurses so that no one shall suffer unnecessarily because of living in an unfortunate geographic location. There are some objections to this as more favorably situated communities would no doubt object to being taxed to support physicians in less favored places. In one sparsely settled community in northern Wisconsin it is planned to levy a sufficient tax to provide an annual retainer of a \$1,000 for a physician who shall practice medicine and surgery in this locality. Furthermore, it is proposed to bond the

township sufficiently to provide funds for the erection of a physician's residence, the cost of which shall not exceed \$5,000. The physician will be permitted to reside in this dwelling and also to have his office therein without the payment of rent. A suitable garage and barn will also be provided.

In return for the annual salary of \$1,000 and the rent-free residence, office garage, and barn, the township board reserves the right to prescribe the fees which shall be collected by the physician. Tentatively the charge of \$2 per call made within the township boundaries, together with mileage at the rate of 50 cents per mile traveled, has been set as the fee the physicians shall collect. When a call is made outside the township the charge shall be \$3 with the same mileage charge. However, \$1 of each \$3 fee so charged shall revert to the township treasury. Charges for confinements, operations, and other unusual attendance are to be made in accordance with the county medical society's fee schedule.

It is the intention of the officials in charge of the project to have the physician act as health officer and serve as medical attendant to the indigent supported by the township. He is also to serve as school physician, making a physical examination of the pupils at least once in three months during the school term. Furthermore, he is to advise the members of the board of health on professional matters.

COMMUNITY HOSPITALS

The problem confronting the family when one of its members is seriously sick—perhaps the bread winning member—cannot be easily solved even by the family physician whose business it is to solve medical problems for his patrons. When a valuable life is at stake no reasonable means of safety will be neglected. The three most important means are sanitary environment, a trained physician and a competent nurse. When we come to compute the cost of only reasonable means of safety and eliminate all that might be termed luxurious we are appalled. A trained nurse at from \$5 to \$7 per day, a physician from \$3 to \$6 per day and numerous minor expenses, it would not be safe to calculate on less than \$10 a day. If it is a case of pneumonia, nurses' unions are demanding that two nurses shall be employed at \$7 a day each. In mild cases of sickness the family and a visiting nurse may be sufficient.

Assuming that the patient belongs to the work-

ing classes and feels that his life is as valuable as any one else, and is just as anxious to get well, what will be the financial burdens when the sickness is over-with, particularly if the workman himself is sick and he has been incapacitated for two or three months? This man has worked all his life, he has a family and has probably never saved much money and pays rent or is paying for a little home on the installment plan. It is fortunate that health regulations have materially lessened the acute continued fevers, but there are enough continued cases of one kind and another to make the problem a serious one. In foreign countries the conditions are met by compulsory insurance.

The profession in this country think this insurance system is bad for American doctors. We think there is a better way. It is to come about through community hospital or other hospitals functioning as community hospitals and group practice.

The community hospital and group diagnosis and treatment; with the present attitude of the profession, is a difficult problem, and we greatly fear that state medicine will be forced upon us by legislation before we can adjust ourselves to some voluntary plan.

It was our good fortune to visit Ridgewood, New Jersey, recently and at the same time study the beginning of an ideal plan for community medical service. The people of Bergen county, New Jersey, voted to build what is called the "Bergen County Isolation Hospital." It is not located in a city, large town, or even a village, but in the country in about the center of the county; Bergen county has no city of more than 20,000 but has numerous small cities or villages. The villages contain numerous New York business men of moderate wealth. Ridgewood is one of the most important near which the hospital is located, has about 7,000 inhabitants and about twenty miles from Jersey City. Bergen county has a population of 210,000. The sum of \$415,000 was voted. Thirty acres of land purchased and several buildings erected on the mission style of architecture. One which is in operation is the isolation hospital and receives in its wards only acute infectious cases, such as scarlet fever, diphtheria, measles, typhoid fever, etc. These wards are so arranged that all direct communication one with another may be avoided. The nurses on duty wear gowns and masks and when retiring from the ward passes into a small room, closes the door, removes the gown and mask which go into

a sterilizer and then she passes through another door into the hall.

There is a well equipped laboratory and operating room. There is also a supply of drugs, antitoxins and vaccines. An acute suppurative appendicitis may be admitted into this hospital, and operated upon but not a case of chronic recurrent appendicitis. No provision for obstetrical cases has as yet been made but a separate building may easily be provided. Major operative surgical cases are not admitted unless acute and urgent. It was not thought necessary to provide for these cases as there are large cities nearby with skilled and experienced surgeons, as Patterson, Jersey City and New York City.

In the administration of the hospital a full time physician and surgeon is employed who receives a salary of \$3,720 per annum and maintenance, he is provided with a very attractive house a short distance from the main hospital building. Dr. Morrow is a highly trained physician and surgeon of attractive and genial manners, enthusiastic in the belief that an important step is being taken to avoid the necessity of state medicine. All acute infectious diseases are on notification transported to the hospital by the hospital ambulance and placed under Dr. Morrow's care, regardless of their financial condition; they may pay from nothing up to \$50 a week or more. Each applicant, parent or guardian indicates on a card what they are able to pay. There is but little misrepresentation and any attempt to escape payment as indicated on the card would soon be discovered by the county officials. There is a cordial co-operation on the part of the physicians of the county. Dr. Morrow who had been for several years in the department of public health in New York City was well known to the local profession of Bergen county and appears to manage affairs without friction or ill will with the local profession.

It appears to us that the hospital service could be easily extended to all classes of cases needing hospital care in such a manner that the family physician can retain his control over the patient and not sacrifice any of his professional income including obstetrical practice. The hospital will stand as the center of the medical activities of the county and every patient, as far as necessary, secure the benefit of a group of doctors without material increased burden of cost and without financial loss to the doctor. The automobile with the good roads will bring the doctor as near his patient as if he remains in his home, and much safer and with greater comfort to all concerned.

The Great Western Accident insurance of Des Moines has opened up a scheme which, at my request, President Hawley has outlined in a tentative plan. This company carries accident and sickness insurance and has had a large experience with risks among what may be called the lower middle class who carry their insurance on the installment plan and who are not financially able to pay more than a small fee for the treatment of remediable conditions which more or less seriously affect the safety of the risk.

This company is undoubtedly adopting a plan which will be more or less generally adopted by companies already in existence and by new ones looking to substandard risks, and which if properly guarded promises much good.

The arguments which the insurance companies will present, will leave some doubt in the mind of the medical profession, who also have some serious problems to consider, to what extent will community hospitals, industrial insurance, and workmen's compensation affect their incomes and their reputation and standing in the community? We confess we do not know, but we have faith that while it will change the methods of conducting a practice, both the profession and the people will gain by it. In the first place it will bring the profession into closer relations, one with the other, in groups of workers who will be able to develop their particular preferences in medicine, and who will thereby develop greater diagnostic and therapeutic skill and furnish the opportunity of growing into closer relation with well-to-do patients who are not included in the compensation, or industrial health scheme, and will we believe bring greater honor and credit. An opportunity will arise at least to do away with the petty bickerings which have so long discredited the medical profession. Again the fees will be much more certain, maximum fees are impossible with this class of patients. It was found in England under government insurance that the rank and file of the profession received more than ever before.

We have given this subject close study both in this country and in Europe, we have read many papers for and against health insurance and are of the opinion that we may start with private health insurance companies, and if it becomes necessary in the future, extend it to government insurance, but under a group organization, with a schedule of fees which may on some plan agreed upon be divided among the different members of the group. We believe that a low contract service without the group feature would be the same as

cheap lodge practice and would be a complete failure. The fees should be reasonable considering the nature of the work and the financial condition of the patients. A bureaucratic plan of service should be absolutely discouraged.

As we see it, if we can organize with the aid of business corporations on a business basis and in a self-respecting way, we will avoid compulsory health insurance legislation. Let it not be said that if Dr. A. will not take the work at the price Dr. B. will.

There is really no difficulty about the matter if we will agree.

ANOTHER FORM OF MEDICAL AND SURGICAL SERVICE

Evidence is accumulating to show that the value of medical service is not becoming less, but surely in a different direction from the early practice of physicians who are still active in the councils of the profession. The changes are primarily in the direction of public welfare, mistaken it may be, but nevertheless in good faith.

It is not at all strange that in this period of reconstruction, when old time methods are undergoing changes, that accusations of selfishness should be freely made. It cannot be said that these changes are all the results of the war for the careful observer had noticed signs of change in almost every department of life before the war came on, but the newer ideas were only partly formed, or were thought to be too radical for safe expression. The emergency period through which we have passed has brought courage, conviction, and an impetus to partly formed or timid ideas which were slowly gaining headway under the pressure of business necessity.

Life and accident insurance companies have been for many years gathering statistics of great value touching health and disease, statistics this country have almost entirely neglected as a governmental agency. The study of insurance statistics have revealed many important facts regarding the health conditions of our people. These statistics have revealed relatively the number remediable diseases and conditions that had been neglected or disregarded, which tended to shorten life and reduce the efficiency of our people, and thereby add to the public burdens, all of which have been confirmed by the draft boards. These revelations have influenced forward looking insurance companies to consider new plans which would be mutually helpful to themselves and to the public. All these considerations must take into account, medical science.

In Europe the functions relating to the health and disease of the individual have been considered as a state problem and have found expression in various forms of health insurance which, contrary to the statements of unfriendly critics, has been of great benefit to the less fortunate.

In the United States there has been generally a strong objection to nationalizing activities that do not relate directly to government, hence, all individual health or sickness relations are held to revert to private activities; whether this is for the best or not, it is our way of looking at things.

From the very first it is fair to assume that insurance companies, while considering their own interests, are alive to the interests of the individual health welfare of the public, which is their interest also.

(We are not considering public health service which is clearly the function of the state and nation.)

THE GREAT WESTERN ACCIDENT INSURANCE COMPANY'S FREE OPERATION SERVICE

Another Movement Toward Group Surgery

It is to the big men in any profession the public looks first for those things indicative of real progress in their profession. Dr. W. J. Mayo, addressing the American College of Surgeons at the recent Montreal meeting said, "It must be either group medicine or state medicine." The tendency toward socialism, however, in all lines, especially on the Western Hemisphere, has received a very decided check during and since the war, largely owing to the experience of Russia, the exposure of the effects of socialistic insurance and medicine in Germany, and the opposition of the socialist party leaders to the war in this country, which in many cases became actually traitorous in its character. The menace of socialistic medical establishment as well as of socialistic insurance has been quite largely anticipated by a very effective discussion, and this has been carried forward nowhere with more vigor than among the accident insurance companies of the country. On the contrary as one of the results of evolutionary progress, there has been a marked growth in the physical welfare work which has been instituted and carried forward along the line of group medicine or surgery, and it has, to a great extent, been accomplished through contracts with surgeons, either individual or in groups. There has also been a marked

tendency of doctors grouping themselves in buildings and into organizations for the purpose of further dividing their work into specialties and thus securing more effective service and better results. All of this group medicine has been following along the line of an urge, both economic and social, toward the betterment of the public welfare so far as health conditions are concerned. In the face, however, of all this activity in the line of group medicine or group surgery and in the face of the increasing number of physicians and surgeons which the medical colleges yearly add to the numbers of the profession, it is nevertheless true, that there was never a time in the history of our Nation when the doctor's professional services were in such general demand and when doctors were so generally prosperous as at the present time.

The individual members of the profession have suffered nothing, notwithstanding the fact that fraternal societies, life insurance companies, large industrial concerns such as mines, factories, etc., the different railroad companies, county and city work, free clinics and workmen's compensation have all, in their different ways, used some form of contract with individual doctors or groups of doctors to furnish free service to the public or to their members or employes, whose health they are economically interested in conserving; on the contrary, fuller confidence in their accomplishments has resulted to the profession and their service has actually been popularized in the public mind by this means.

The new free operation service which the Great Western Accident Insurance Company of Des Moines has recently announced for its policyholders is in line with the tendency of the times and also in line with the opinion of Dr. Mayo, quoted in the beginning of this discussion. Everyone will prefer group medicine to state medicine. Thus far group medicine has not interfered with the local doctor's success, and it is this group plan that the accident company has started to work into. A reasonable expansion of this new plan helps to anticipate any possible demand for state medicine by occupying the field in which a desire for state medicine might grow and thrive.

The company, before entering upon this adventure in physical welfare surgery, gave very careful thought to the question of its effect upon the business of the local doctor, and concluded that the result would be to his best interest. Indeed, after the most careful thought and consideration, the company became satisfied that the general ef-

fect upon the medical profession would, in the large, be found to be decidedly beneficial.

The history of material progress has shown beyond peradventure that the fears of laobrrers that labor saving machinery would depress the price of labor; of life insurance companies that the fraternal or the government insurance of soldiers would occupy the life insurance field to their exclusion or detriment; of accident insurance companies that the workmen's compensation law with its consequent compulsory insurance of employes would abridge their opportunities to place insurance against losses of the same character; of the banks that the institution of the Postal Savings Bank and of the Federal Reserve Bank would curtail their opportunities in the fields of finance, have all proved wholly unfounded, the very opposite of the thing feared having proved to be the event.

It is believed that if there had already been no experience in society along the lines of this group welfare work, which has up to this time not proved inimical to the local doctor's best interest, the company would nevertheless have been warranted in reaching the conclusion, in view of human experience, only partially illustrated by the cases cited, that work such as that proposed by the company being in the character of welfare work, in the character of a real beneficence to the members of society whom it may reach, can not therefore, injure the legitimate interests of any man or profession. In view of the few illustrations here given it should be plain that all fears of injury to any doctor's local practice, will prove unfounded; but on the contrary there will grow up an increased reliance on the wonderful accomplishments of surgery which will sensibly increase among his clientele a greater desire for this sort of service.

There is no pretense on the part of the Great Western Accident Insurance Company that this is a purely philanthropic move or proposition. On the contrary, it is considered good business. It is believed that its group service plan will add to the prestige and good will as well as the success of its business. The company believes that this service will raise the general level of its risks by improving health conditions of those operated upon. It is believed that experienced and skillful surgeons operating in a well equipped hospital with competent nursing will materially decrease the loss of time suffered by its members.

There are, literally, hundreds of thousands, perhaps millions, of people in this country that should have the benefit of scientific surgery, who

are deterred from securing this benefit on account of an imagined inability to pay for same, or on account of an undue fear of the surgeon's knife. Whatever can be done in a general way to remove this fear and to convince people of the benefits and real economy of such treatment, will enlarge the practice and increase the particular success of every physician and surgeon throughout the length and breadth of our land, to an incalculable extent. The benefits of the educational value of service such as that offered by this new plan should inure largely to the members of the medical profession.

With perfect confidence, it may be stated, therefore, as a sound, general principle, that any great service which is performed for the betterment of mankind will be found not injurious to any legitimate enterprise or profession.

H. B. HAWLEY.

INCREASE IN DUES OF THE AMERICAN MEDICAL ASSOCIATION

We publish a letter by one of our oldest and most respected members protesting against the action of the House of Delegates in special session November 11, 12, 1920, at Chicago, increasing Fellowship dues from \$5 to \$6 annually.

We publish this letter because there was some objection to this action to raise dues, not so much probably on account of the increase of one or two dollars as from a feeling that the board of trustees had not fairly represented the financial condition of the Association. The Wayne County Medical Society, Detroit, Michigan, sent a protest and Dr. Whalen and Dr. W. B. Small, delegates from Illinois and Iowa opposed the increase in open session. We assume that the board of trustees and the House of Delegates in special session were correct in their contention that increased dues were necessary. In a small way we have been confronted with the same problem. The British Medical Journal formerly cost us \$8 annually in 1919; 1920 \$15, for 1921 we have no assurances. The London Lancet \$10, twice what it cost formerly; Edinburg Medical Journal, formerly \$8, now \$10. Our French journals almost in the same proportion. This may not be quite a fair comparison because of somewhat different conditions but it is at least suggestive, most of our American journals cost more.

If Dr. Bailey will read our report on the Journal of the Iowa State Medical Society published in the July number, 1920, he will discover our own situation. The Canadian Association has

not increased its subscription but this is rather exceptional. In Iowa we were protected by the foresight of our own delegate, Dr. W. B. Small, in providing a reserve fund which should anticipate future contingencies. Dr. Small had been for many years treasurer of our State Society and a member of the present board of trustees.

We believe that when our objecting members consider the matter carefully they will feel that the increased dues are not only necessary but desirable. We must not for a moment reduce the activities of the medical press but rather increase them. We are passing through a trying period and it will need all the influence of our press to maintain our place and influence. How otherwise can we coordinate our activities when economic schemes are touching us at every point? The lay press do not hesitate to increase their subscriptions and people readily acquiesce. The reader of magazines must appreciate the influence which our medical journals exercise, particularly the Journal of the A. M. A.

The Journal of the American Medical Association must stand at the head of medical activities in the United States, not perhaps, altogether from the standpoint of its literary productions, but from the wide range of its policies. There may be a question as to the wisdom of publishing special journals which could be published equally well by private enterprise, and there may also be some question as to its hospital activities which may be better cared for by the American College of Surgeons and by the Public Health Service, thus avoiding some confusion. These are matters of opinion, but it would be most unfortunate to cripple the American Medical Association by withholding an additional dollar of revenue from each member.

Mount Ayr, Iowa, Dec. 2, 1920.

D. S. Fairchild, M.D.,
Clinton, Iowa.

Dear Doctor:

I am writing to you making a protest against what I call an outrage—the raising of the annual dues of the American Medical Association to six dollars, and I hope you will make a protest against this action of the House of Delegates, while they were being wined and dined at our expense.

It has been the boast of the board of trustees for years that the Association was in sound financial condition, had money in bonds and other securities, and the income from the Journal was colossal and now comes the same board of trustees and given a hoist in dues. I wonder if there is a "Salary Grab"

behind this move? I hope you will fight this move. In your position you can make a successful fight.

Yours truly,

S. BAILEY.

IOWA STATE UNIVERSITY NEWS

Dr. Don M. Griswold

Mr. H. E. Peebles, assistant professor of bacteriology and pathology, spent Christmas in Columbus, Ohio, visiting relatives and friends at the Ohio State University.

Dr. Henry J. Prentiss has been ill for a few days with a mild type of influenza.

Miss Janet Geister, secretary of the committee on education of the National Organization for Public Health Nursing, is spending some time at the University Hospital looking over the course of study prepared for public health nurses.

Miss Helen Stewart is in charge of the local school for public health nursing and expects to be training nurses for public health careers in a short time.

Dr. Lawson G. Lowry, assistant director of the State Psychopathic Hospital just returned from a trip to Bloomington, Indiana, and Chicago, Illinois, in the interest of the national organization Phi Beta Pi.

Dr. Samuel T. Orton, director of the State Psychopathic Hospital made a recent trip to psychopathic hospitals in Baltimore, Boston and New York.

The new State Psychopathic Hospital building on the new medical campus is now under roof and will be admitting patients in a few months.

The Psychopathic Hospital service now being furnished in temporary quarters is filled and usually has a waiting list. Physicians who have patients for this service should write or wire for a bed before bringing their patients to Iowa City.

Dr. C. R. Thomas of the student health department is making an extended trip to the East during the holiday season.

During the Christmas season, many societies and various interested people of the state sent money, clothing, toys, fruit, candy and other gifts to the patients in the children's hospital and in the children's ward of the general hospital. If the donors of these gifts could have been in the wards on Christmas morning to see the way these gifts were received and the pleasure brought to these little folks by their thoughtfulness, they would have been many times repaid.

Each ward was furnished with a Christmas tree

and the walls and windows were appropriately decorated.

The Christmas spirit was running high in all these little inmates and the appreciation they showed was truly pleasing.

A bountiful Christmas dinner was served to all physicians, nurses, attendants and ambulatory patients and some bit of Christmas cheer was carried into the room of every patient in the hospital.

Santa Claus visited the children's hospital and the children's ward of the general hospital and gave out presents at each place.

The night before Christmas, the little folks of Iowa City gave an entertainment for the little folks at the children's hospital in which the actors had as much fun as the audience.

The superintendent of the hospital and those in charge of the various divisions of the hospital wish to express their gratitude to the friends who made possible such a pleasant Christmas and the patients wish to thank the societies and individuals who gave them such a bountiful Christmas and one that will long be remembered.

During the Christmas holidays the American Academy for the Advancement of Science held its annual meeting in Chicago. The academy is composed of some eighteen or twenty different sections of various scientific work.

Members of this medical school who were present for the various section meetings were as follows: Dr. Henry Albert, department of pathology and bacteriology; Dr. W. J. McDonald, director of student health; Dr. R. B. Gibson, research chemistry; Dr. Oscar H. Plant, department of pharmacology; Dr. McClintock, department of physiology; Dr. Henrietta Calhoun, department of pathology and bacteriology; Mr. R. L. Laybourn, department of bacteriology.

Dr. Don M. Griswold, assistant professor of preventive medicine and hygiene and state epidemiologist, recently returned from extended investigations of outbreaks of small-pox in Decorah, Le Mars, Lamoni and Doon.

Diphtheria and scarlet fever are not unduly prevalent in the state at the present time but a large number of cases of small-pox of a very mild type have been reported from almost every part of the state.

It is past history and common knowledge that these cases precede epidemics of a more serious type and if such serious consequences are to be avoided, vigorous measures must be taken wherever it is found that a focus of infection resides.

The Iowa section of the American Water Works Association held its annual meeting in the physics building of the State University. Many interesting papers were presented regarding the location, protection and purification of water supplies in this state. This subject becomes increasingly important

as the density and population increases and is one that is of immediate interest in almost all Iowa municipalities.

Dr. Howard L. Beye has been named by President Walter A. Jessup as the member of the athletic board from the faculty of the College of Medicine to succeed Dr. Henry J. Prentiss.

Miss Frances Martin has been detailed as chemist and dietitian of the chemical research laboratory of the pediatrics department.

The head of the department of pediatrics is interested at present in the scientific study of the causes of purpura of children and would like to hear from physicians in the state having such cases in their care.

MEDICAL NEWS NOTES

Dr. Rudolph Matas of New Orleans Elected Vice-President

At a recent meeting of the trustees of the American Medical Association in Chicago, Dr. R. Matas was elected vice-president of the Association to fill the place made vacant by the death of Dr. Isidor Dyer.

Dr. John G. Bowman Goes to the University of Pittsburg

Dr. John Bowman, director of the American College of Surgeons has been elected chancellor of the University of Pittsburg. Dr. Bowman, formerly president of the Iowa State University and later director of the A. C. S. since its organization, has proved himself a most efficient executive officer. The University of Pittsburg is to be congratulated.

Statement that Defendant Physician Protected by Insurance Held Prejudicial

In an action against a physician for damages for malpractice an uncalled for statement by the plaintiff's counsel in his argument to the jury, implying that the defendant was protected by insurance, was held error necessitating reversal. *Sherwood v. Babcock*, Michigan Supreme Court, 175 N. W. 470.

An ordinance making vaccination compulsory for all Dubuque children in attendance in local schools, was passed by the city council. The ordinance becomes effective immediately after its publication.

According to the provisions of the ordinance, all school children in the city who are unable to present satisfactory evidence that they have been successfully vaccinated within the past five years, or who are unable to produce certificates that vaccination is unnecessary for them at the present time, will be refused admittance to all public, parochial and

private institutions in the city. Notices to this effect will be submitted to heads of such institutions as soon as the provisions of the ordinance become effective.

The action of the council was taken as the first step in Dubuque's war on the spread of small-pox and other contagious diseases in the city during the coming winter. Reports from medical authorities show that the city is threatened by a serious epidemic of small-pox unless precautionary measures are to be taken to prevent the spread of the malady. The city officials in session Thursday afternoon, determined to push to the fullest extent this campaign and to do all in their power to safeguard the health of the community. Although at the present time, the number of cases of contagious diseases reported to city authorities has not as yet assumed alarming proportions, nevertheless the number is wholly out of proportion for this season of the year.

The ordinance empowers the local board of health to enact such rules and regulations which it shall deem necessary and advisable, and authorizes them to enforce all such regulations which they may enact. It is considered probable that an entirely new code of rules regarding the necessary steps to be taken in isolating members of the community afflicted with the contagious diseases will be passed within a short time, as the old code, established by the former board of health, is considered obsolete. This action, however, will probably not be taken until a successor is named to fill the vacancy made by the resignation of Dr. E. L. Reinecke as city physician and conference held to decide upon a practical working set of rules.

A new hospital to be known as the City Hospital, is soon to be a reality in Carroll. Dr. Wyatt of Manning and a number of other doctors in Carroll will be interested in the institution. Trouble has been brewing between a number of the doctors in the county for some time past on account of accommodations at St. Anthony's Hospital and the new institution is the outcome.

The first supply of radium that has ever been owned in Fort Dodge has been received by Drs. Evans & Bowen. They have two capsules containing twenty-five milograms each, two needles containing ten milograms and one plaque. The radium was ordered in the summer when it was selling for \$110 a milogram, which places the value of the capsules and needles at \$7,700. Since then the cost has raised to \$120 a milogram.—Ft. Dodge Messenger.

American Association of Railway Surgeons

At the seventeenth annual meeting of this society, held in Chicago, October 6 to 8, 1920, Dr. Clarence W. Hopkins of Chicago was elected president and other officers were elected as follows: First vice-president, Dr. Edwin B. Shaw of Las Vegas, N. M.;

second vice-president, Dr. Joseph B. Wharton of Eldorado, Ark.; third vice-president, Dr. George W. Pirtle of Carlisle, Ind.; treasurer, Dr. Henry B. Jennings of Council Bluffs, Ia. (reelected); secretary, De Louis J. Mitchell of Chicago (reelected).

Mahaska Hospital recently installed an extension x-ray apparatus.

SOCIETY PROCEEDINGS

Boone County Medical Society

The members of the Boone County Medical Association elected their officers for the coming year at the meeting held December 17 in the office of Dr. M. G. Jones. There was a large portion of the membership present.

The election resulted as follows: President, Dr. M. A. Healy; vice-president, Dr. M. C. Jones; secretary-treasurer, Dr. William Woodburn. Member of board of censors: Dr. J. O. Ganoe, Ogden. Delegate to the state convention: Dr. G. H. Stanger. Alternate: Dr. N. M. Whitehill.

Carroll County Medical Society

The Carroll County Medical Society met in the council rooms of the city hall Monday night, December 13. Besides the Carroll doctors those from out of town who attended were Dr. Bookhart of Ida Grove, Dr. Cohen of Halbur, Dr. Hopkins of Glidden and Dr. Hart of Lanesboro.

Cass County Medical Society

Cass County Medical Society met in annual session December 29, 1920. The following officers were elected: President, Dr. R. L. Barnett, Atlantic; vice-president, Dr. R. M. Cullison, Atlantic; secretary and treasurer, Dr. M. F. Stults, Wiota. Dr. Thos. Byrnes of Atlantic was elected as delegate to the State Medical Society to be held in Des Moines May 11, 12 and 13, 1921. Dr. W. F. Graham of Atlantic was elected alternate. Miss Ethel Hedges, Cass county Red Cross nurse was present and gave a short talk regarding her work. There was the annual payment of dues and then the following program which was fully discussed: Acidosis, Dr. Thomas Byrnes; Report of Cases: Vincent's Angina—Chancroidal—Appendix on Left Side, Dr. M. F. Stults; Report of Case, any doctor may wish to present. Dr. W. F. Graham, president. Dr. M. F. Stults, secretary. M. F. S.

Crawford County Medical Society

The Crawford County Medical Society held their annual meeting at the Hotel Denison Thursday afternoon, December 9, at which time officers for the ensuing year were elected. Dr. H. D. Jones of Schleswig, president; Dr. P. J. Brannon, Denison,

vice-president, and Dr. J. J. Meehan, Denison, secretary and treasurer, were all re-elected.

One of the features of the annual meeting was the banquet given in the hotel dining room in the evening, to which the wives of the members of the society and nurses were invited.

Dr. H. D. Jones of Schleswig, acted as toastmaster. Dr. P. J. Brannon gave the address of welcome, which was responded to by Mrs. Merriam of Deloit. Dr. C. C. Herron and Miss Pearl Gray responded to toasts. The address of the evening was delivered by Dr. G. A. Young of Omaha, who spoke on Everyday Nervous Cases and Their Treatment.

Much credit for the success of this meeting and the annual banquet is due Dr. J. J. Meehan, who had complete charge of arranging for the menu and speakers. Members of the society feel grateful to him for his efforts.

Those in attendance at the banquet were Dr. and Mrs. H. D. Jones, Schleswig; Dr. and Mrs. M. M. Loomis, Manilla; Dr. and Mrs. Merriam, Deloit; Dr. C. C. Herron and Dr. S. H. Huber, Charter Oak; Dr. L. L. Bond, Dr. P. J. Brannon, Dr. C. E. Yoder, Dr. J. J. Meehan and the following nurses: Miss Ross, Miss Meehan, Miss Laub, Miss Bierne, Miss Gary and Mrs. J. V. Barborka.

Des Moines County Medical Society

The annual meeting of the Des Moines County Medical Society was held at Hotel Burlington, Burlington, December 15, 1920. A very interesting and unusual program was given in that the participants were all guests from other states. Dr. Percy H. Swahlen of St. Louis, presented a paper on Some Practical Points in Operative Obstetrics; Dr. Clifford G. Grulee, of Chicago, read a paper on Some Observations on New Born Infants. Insufficiency of the Sex Organs, was the subject presented by Dr. William Engelbach, of St. Louis, and Dr. Nelson M. Percy of Chicago, considered Local Anesthesia in Thyroidectomy: Its Technique and Advantages, with Report of Cases.

About eighty physicians from neighboring county societies as well as the Des Moines County membership were in attendance, contributing to the interest and enthusiasm of the session.

Addresses of Welcome were given by prominent Burlington men, the Hon. LaMonte Cowles and Mr. Louis Lau, and a sixty-thirty dinner was a fitting close to the social and scientific session.

At the business meeting, the by-laws were changed whereby the local dues were materially increased. Dr. George H. Steinle, former secretary, was elected president; Dr. George J. Pearson, vice-president and Dr. Herman Fischer, secretary-treasurer.

The scientific program presented by such prominent guests, shows what a county society may have by the putting forth of extra effort; and the inviting of neighboring physicians to participate in the benefits coming from such a presentation of scientific

material, well demonstrates the hospitality of the Des Moines county profession.

Dubuque County Medical Society

At a special meeting of the Dubuque County Medical Society, the following resolutions upon the death of Dr. William Joseph Hierstein of Dyersville, who was called to his reward January 12, following a brief illness, were passed.

Whereas it has pleased the Almighty Father to take from our midst Dr. William J. Hierstein, a valued member of our society, therefore; be it resolved that the Dubuque County Medical Society wishes to express their sympathy and condolence to the friends and relatives of our respected member, Dr. Hierstein.

Dr. Hierstein was an honorable member of this society, always alert to his duties as a physician and as a member of the community. Death claimed him while just at the beginning of a prosperous and useful life. The community as well as his colleagues, mourn his untimely death—his early demise being an irreparable loss to us all.

Dr. J. R. Guthrie,
Dr. Chas. Palen,
Dr. A. H. Blocklinger,
Committee.

Floyd County Medical Society

The Floyd County Medical Association held their annual meeting December 8, which was also attended by Dr. Rohlf of Waterloo, Dr. Rohlf of Waverly, and Dr. Gardner of New Hampton.

Many interesting questions were discussed. The newly elected officers for the ensuing year are as follows: President, Dr. Griffin; vice-president, Dr. Yennerick; secretary and treasurer, Dr. Banton; delegate to state convention, Dr. Miner; alternate, Dr. O'Keefe.

At 6:30 dinner was served at the Guild hall, to which the ministers of the city and the editor of the press with their wives were guests.

Greene County Medical Society

The Greene County Medical Society met at Jefferson, Iowa, December 30, 1920, and the following officers were elected for the ensuing year: President, B. C. Hamilton, Jr., Jefferson; vice-president, R. E. Parry, Scranton; secretary, John R. Black, Jefferson.

Clinical meetings will be held quarterly at Scranton, Grand Junction and Jefferson.

Dr. B. C. Hamilton, Jr., made a very interesting and instructive talk on carcinoma. J. R. B.

Hamilton County Medical Society

One of the most successful meetings of the Doctors' and Dentists' Credit Association was held December 9 at 6:30 o'clock. Every dentist and doctor

in the city, with the exception of one who was out of town, was present at the gathering.

A banquet was served in the Chamber of Commerce dining room by the Baptist ladies, and the discussion of questions of interest to local doctors and dentists, was led by Dr. M. B. Galloway.

The points taken up at the meeting dealt with the establishment of some method by which practitioners of medicine or dentistry can check the running of delinquent fees. A rating book was suggested as one remedy for this condition, but no action was taken to establish this measure. If this suggestion should be acted upon, the organization would rate accounts of patrons who are delinquent in making settlements and who ignore repeated requests for the payment of fees. The majority of those present favored the taking of some measure to deal with the question and it was planned to complete arrangements for some checking system at a future meeting of the organization held especially to discuss the matter further.

Hamilton County Medical Society

The Hamilton County Medical Society met the evening of January 26 in Webster City at which time the following officers were elected for 1921: President, Dr. John L. Peppers; secretary-treasurer, Dr. Milton B. Galloway; delegates, Drs. O. C. Buxton and R. M. Wildish; committee on legislation, Drs. E. E. Richardson, W. W. Wyatt and M. B. Galloway, censors, Drs. F. F. Hall, T. F. Besmond and Guy McCauliff, all of Webster City.

Dr. M. B. Galloway presented a paper on Quackery with special reference to chiropractic. The next meeting of the society will be held February 23.

Jackson County Medical Society

The Jackson County Medical Society met at the office of Drs. Lowder and Lowder, Maquoketa, December 28. The following officers were elected for 1921. Dr. Hugh Jenkins of Preston, president; Dr. J. C. Bowen of Maquoketa, vice-president, and Dr. Wm. Lowder of Maquoketa, secretary-treasurer.

A very interesting paper by Dr. R. H. Lott on the after treatment of surgical cases was read and discussed after which Dr. Hugh Jenkins gave a very interesting account of his visit to the battlefields of France and other parts of Europe.

Mills County Medical Society

The Mills County Medical Society, president, Dr. I. U. Parson, secretary, Dr. M. S. Campbell, both of Malvern, met at the Woodman hall. Routine business only was transacted and the meeting adjourned until January, when it will be continued at the same hall, for the completion of the December work.

Polk County Medical Society

Polk County Medical Society held its annual meeting at Younker's Tea Room, Tuesday evening, De-

cember 20, 1920. Dr. Channing G. Smith, president, Dr. Thomas F. Duhigg, secretary. After the annual banquet, Dr. Robert H. Babcock of Chicago delivered an address: The Diagnosis and Management of Cardiac Disorders Based on Thirty-Five Years of Clinical Practice.

Dr. Babcock is a heart specialist of world-wide fame, and presented the subject of diagnosis and treatment of heart lesions in a practical and interesting manner. The session was continued by moving pictures and other entertainment which Dr. Duhigg so well knows how to provide.

There were physicians present whom it was delightful to see. Drs. J. T. Priestley, Lewis Schooler and O. W. Lowery, whose years of practice near reaches the fifty year period and who have not forgotten the fellowship of physicians. If appearances could be relied upon they enjoyed the gathering in the spirit of men without gray hair.

Dr. Duhigg, secretary, presented a report full of interest which showed that during his period of service of ten years as secretary, the membership had increased from 110 to 221, a record of which he may well be proud and the society be congratulated. Officers elected: J. W. Osborne, president; A. P. Stoner, vice-president; H. E. Ransom, secretary; E. B. Mountain, treasurer. Delegates to State Society, W. S. Conkling and F. B. Langdon.

Pottawattamie County Medical Society

The Pottawamie County Medical Society held its annual meeting in the assembly room of the Chamber of Commerce Tuesday afternoon, December 7, and elected officers for the ensuing year as follows: Dr. L. L. Heninger, president; Dr. John T. McAtee, vice-president, and Dr. A. A. Robertson, secretary-treasurer.

Following the election of officers the body was addressed by the new president, papers being read by Dr. G. A. Spaulding, Avoca; Dr. French of Carson and Drs. A. A. Robertson and H. B. Jennings of Council Bluffs.

Upper Des Moines Medical Society

The Upper Des Moines Medical Association which comprises Dickinson, Emmet, Palo Alto and Clay counties, convened in Estherville, recently. Dr. Epley gave a paper on Pre and Post-Operative Treatments.

THE AMERICAN CONGRESS ON INTERNAL MEDICINE

The fifth annual session of the American Congress on Internal Medicine will be held at Baltimore, Md., week of February 21-26, 1921.

The activities of the Congress will be largely clinical. Ward-walks, laboratory demonstrations and group or amphitheatre clinics will be conducted daily

by members of the medical faculties of the Johns Hopkins and the Maryland Universities.

Further information may be secured by addressing the secretary-general, Dr. Frank Smithies, 1002 N. Dearborn street, Chicago, Illinois.

PERSONAL MENTION

Dr. R. E. Anderson, a graduate of the University of Chicago and an intern in Cook County Hospital, has located in Toledo.

Dr. Charles A. Manahan, formerly of Center Point and Blairstown, has located in Vinton.

Dr. W. L. Downing has located in Le Mars. Dr. Downing is a graduate from the University of Minnesota. He will be associated in the Le Mars Clinic in place of Dr. J. N. Gehien who has entered the Public Health Service.

Dr. H. M. Shipley of Rippey, formerly of Moulton hospital, has located in Bellevue. Dr. Shipley is a graduate of the University of Nebraska.

Dr. Katherine Herring of Waterloo has been made head of a woman's bureau of the department of immigration with headquarters in Washington, D. C.

Dr. S. D. Folsom has located in Muscatine. Dr. Folsom saw much active service in France.

Dr. H. A. Stribley, a graduate of the College of Medicine, University Iowa Class 1918, has opened an office in Dubuque.

Dr. G. D. Darnall of West Union has returned from Cincinnati where he attended the centennial celebration of the College of Medicine of the University of Cincinnati—formerly Ohio Medical College. Dr. Darnall graduated forty-nine years ago.

In the list of surgeons published in the Journal State Medical Society who served in the United States Army during the late war, Dr. Ralph Lovelady of Sidney was unintentionally overlooked. We now take pleasure in saying that Dr. Lovelady was commissioned and served one year.

Dr. John W. Cogswell, formerly of the Iowa University medical faculty (homeopathic), has been made professor of obstetrics and gynecology, University of Ohio.

Dr. and Mrs. John W. Schuman have just returned from a visit through the Grand Canyon and Los Angeles, California.

Dr. J. K. Guthrie has located in New Hampton. Practice limited to diseases of eye, ear, nose and throat.

Dr. W. L. Hoffman will retire from the practice of medicine about the middle of the month to accept a position as surgeon in the regular army with the rank of major. He will report at Ft. Crook, Omaha. Dr. Hoffman gives as his reason that the demands of country practice and the uncertainty of leisure hours to attend to personal affairs has led him to make the change. His social relations, as well as those of Mrs.

Hoffman, have been very delightful, during their Harlan residence.

Dr. A. C. Rhine, member of the medical staff of the Lutheran Hospital in Hampton, has been offered and accepted a commission as captain in the medical corps of the regular United States Army, and expects soon to leave for Des Moines where he will report for duty.

With orders to report for duty on the staff of the surgeon general of the United States Army at Washington, December 14, Dr. D. S. Fairchild announced his retirement from the civil medical practice and his decision to continue his career in the United States Army. With the order came a commission as colonel of the medical corps, an honor in itself, and a double honor, for seldom is a civilian so commissioned. It was accomplished through special dispensation and came as a crowning recognition of the services rendered his country during the World War as head of the Rainbow Division. Under the order Dr. Fairchild will be located at Washington and will have charge of a department in the surgeon general's office. David Fairchild has held every rank from lieutenant to colonel, each promotion having been won on the battlefield. He served in the Spanish War, on the Mexican border and in the World War.

Dr. and Mrs. L. L. Heninger and small son leave December 19, 1920 for California. Dr. Heninger expects to stay over the holidays and Mrs. Heninger will remain until spring.

Dr. John Sevenster has arrived home from Holland, where he was called to settle the estate of his father. Dr. Sevenster states that the conditions in Europe cannot be realized unless one actually visits the countries. He states that the people are living a wild and merry life in an effort to overcome their sadness and the memories of the awful days of the war.

Dr. Donald Macrae talked to the Rotary Club on standardization of hospitals, and left the members with a clearer realization of the importance of hospitals to them, their families and their city, and with a thorough appreciation of the standardization that is being made of the Mercy and Edmundson Hospitals in Council Bluffs and of other institutions elsewhere. Dr. Macrae pointed out that standardization, by making more easy a call on the knowledge of the entire staff of the hospital, gives the patient better service, and by demanding that the physician bringing a patient to a hospital subscribe to the rules of the place, makes certain that the sick person gets the best care possible. The demand on the part of the public for standardization had eliminated a great many "quack" hospitals, too, the speaker said.

Colonel David Fairchild of Clinton, and Mrs. Fairchild, who are leaving shortly for a new home in Washington, D. C., were entertained at dinner at the Outing Club Wednesday evening, with a dozen of their old friends of this city by Dr. and Mrs. D. J. McCarthy of East Locust street. There were fifteen

in the party surrounding the dinner table which was charming in its trimming of Christmas red and green, with poinsettia as the centerpiece. Colonel Fairchild was chief surgeon of the Rainbow Division, and was in France almost two years. He resumed his practice as one of the prominent physicians and surgeons of eastern Iowa, on his return to Clinton, but recently decided to re-enter the regular army and has been appointed on the staff of Surgeon General Ireland with headquarters in Washington. He and his wife leave December 14 for the capital. They are returning to Clinton Friday.

Last week's issue contained an account of the turkey that was won by Dr. Clapsaddle of Burt in the big "turkey chase" and the following from an interested party tells of its recovery. "Dr. Clapsaddle found his turkey at the home of K. J. Smith who was giving a dinner party to Dr. and Mrs. Peters, editor and Mrs. McArthur and Tom Trainer. Their plans were a little too loose, which resulted in the recovery of the beautiful bird and its return to the right owner, where a six o'clock dinner was enjoyed by all present. Dr. Peters tried to get away with the bird but couldn't get his 'second wind' which resulted in his capture at the corner of friendship and hard luck streets."

Drs. C. E. Stewart and A. H. Jastram were in Le Mars December 22, guests of the Le Mars doctors who served a moose dinner to physicians and surgeons of the Plymouth County Medical Society. The dinner was served in Columbia hall. The principal item on the menu was the meat of a moose that was killed by Dr. J. M. Fettes on his recent hunting trip to western Canada.

OBITUARY

Dr. George W. Murphy, sixty-one years old, died at his home, 3203 Jennings street, November 30, from cancer. Dr. Murphy was a resident and practicing physician of Sioux City for two years, moving here from Danbury, where he was engaged in the medical profession for over thirty years.

Dr. Murphy was born September 3, 1859 at Epworth, Dubuque county, Iowa. When he was eleven years of age he moved with his parents, two brothers and two sisters across the prairies of Iowa to Adair county, where he resided until he had completed two collegiate courses, one at Simpson College and a medical course at the University of Iowa. He then located at Danbury, where he devoted over thirty years to the practice of medicine. Two years ago he moved to Sioux City.

Dr. Samuel James Meltzer, New York; University of Berlin, 1882, died, November 7, aged sixty-nine. His death resulted from pulmonary edema following an attack of angina pectoris. Dr. Meltzer was born in Courland, Russia, March 22, 1851; received his preliminary education, Konigsberg, Prussia, and his

college and medical education at the University of Berlin. He studied physiology under Prof. Hugo Kronecker, with whom he made early important studies on the deglutition reflex. He came to the United States in 1883, and engaged in the practice of medicine in New York, serving for many years as attending physician to the Harlem Hospital. Dr. Meltzer was a productive contributor to the literature of biology, physiology and experimental medicine.

In 1906 Dr. Meltzer was appointed head of the department of physiology and pharmacology of the Rockefeller Institute for medical research, and he retained this position until his death. He was active in many medical and scientific organizations, and founded the Society for Experimental Medicine and Biology, the American Association of Thoracic Surgery, and during the war, the Medical Brotherhood for the Furtherance of International Morality. He was sometime president of the Association of American Physicians, American Physiologic Society, Association for the Advancement of Clinical Research and Harvey Society; a member of the National Academy of Sciences, Association of American Pathologists and American Society of Naturalists, and other societies.

Dr. J. M. Aiken of Omaha and editor of the Nebraska State Medical Journal died at his home in Omaha, November 18, 1920.

Dr. Aiken was born in Bellefontaine, Ohio, May, 1857. When he was seventeen years of age his parents moved to Clarinda, Iowa. In 1887 graduated from the medical department of the Iowa State University. After graduating Dr. Aiken was appointed first assistant physician to the Clarinda Insane Hospital under Dr. Max Wille, superintendent. In 1888 he located in Omaha, limiting his practice to mental and nervous diseases, although in the earlier years of his practice he accepted a limited amount of general practice. He married Miss Martha Leonard of Cedar Rapids in 1893.

Dr. Aiken was professor of nervous and mental diseases first in Creighton Medical College and later in the medical department of Nebraska State University, from which he resigned in 1917.

He was appointed secretary of the Nebraska State Medical Society in 1911 to fill a vacancy and the next year he was elected secretary which office he held to the time of his death. In 1918 he was elected editor of the Nebraska State Medical Journal which he was largely instrumental in organizing. He served three years as delegate to the A. M. A.

It was during his service as secretary and secretary-editor of the Nebraska State Medical Society that the writer came to know Dr. Aiken well and to appreciate his merits. He was a modest man, little inclined to press his claims to medical preference, but accepted obligations and responsibilities with a

calm assurance in his ability to perform the duties assigned him.

Dr. Aiken's training and wide knowledge of men and affairs made him a valuable asset to the profession of Omaha and Nebraska.

Dr. J. W. Hanna, aged seventy-four years, died December 2. For many years he had been a sufferer from a complication of diseases, the last two and a half years being spent in bed. He finally succumbed to a stroke of apoplexy. Dr. Hanna had been a citizen of Winfield since 1879, coming here to recuperate his broken health after a siege as quarantine officer for the port of St. Louis. He had practiced medicine in this vicinity until forced by illness to retire. He played a prominent part in the affairs of his town, county and state. A lifelong democrat, he participated in the councils of his party as delegate to conventions of the county, state and nation, as a member of various committees and was the party's candidate for several offices. In Winfield he had served as mayor, councilman, member and president of the board of education, postmaster and health officer.

Dr. J. M. Rendleman, a practicing physician in Exira since 1872, died at 9 o'clock Saturday evening, December 25, after a long illness. He was in his eighty-third year.

Dr. Rendleman was a native of Atlanta, Georgia. It is said he served in the confederate army during the War of the Rebellion. In 1872 he came to Exira and up to a few years ago was in active practice. He was a man of exceptional intellect and was widely read.

MARRIAGES

Dr. R. A. Becker of Anita and Miss Emma K. Lewis of Adel. The Doctor in view of additional responsibilities has located in Atlantic.

Dr. Bryant L. Carl and Miss C. Esther Aldrich, both of Des Moines.

Dr. A. G. Fleischman of Des Moines and Miss Rose Livingston of Rock Island.

Dr. Ben T. Whitaker of Boone and Miss Dorothy T. Ross of Frankfort, Indiana.

UNITED STATES PUBLIC HEALTH SERVICE

List of Changes of Duties and Stations of Commissioned and Other Officers of the United States Public Health Service for the Seven Days Ended December 8, 1920

Surg. Taliaferro Clark. Proceed to New York City for the purpose of attending a meeting on the revision of the present weight tables to be held December 3, 1920.—December 1, 1920.

Surg. L. L. Lumsden. Proceed to Quincy, Illinois, for the purpose of delivering an address at the

Health Conservation Meeting which is to be held the week beginning December 5, 1920.—November 30, 1920.

Surg. Joseph Goldberger. Relieved from duty as member of the Board of Examiners convened to meet at the Butler Building, December 13, 1920.—December 1, 1920.

Surg. A. M. Stimson. Designated as member of a Board of Examiners convened to meet at the Butler Building, December 13, 1920, Vice Surgeon Joseph Goldberger relieved. December 2, 1920.

Asst. Surg. Vance B. Murray. Report to P. A. Surgeon, C. J. McDevitt, Chairman of the Board, for examination in order to determine fitness for promotion to the grade of P. A. Surgeon.—December 4, 1920.

Asst. Surg. Richard B. Norment. Proceed to Lakewood, N. J., to deliver an address on plague prevention New Jersey Sanitary Association.—December 3, 1920.

Sen. Dental Surg. E. E. Buell, Reserve. Proceed to Baltimore, Md., for the purpose of inspecting the dental service at the U. S. Public Health Service Hospital No. 56, that place.—December 6, 1920. Proceed to Perryville, Md., for the purpose of inspecting the dental section of the Supply Depot.—Dec. 6, 1920.

Dental Surg. A. J. Beatty, Reserve. Proceed to New York, N. Y., and points in District No. 2, for conference with Senior Surgeon J. O. Cobb, and the District Supervisor for the purpose of inspecting the dental section in that section.—December 4, 1920.

Surg. Paul E. Bowers, Reserve. Directed to proceed to the University of California, Berkeley, Calif., for the purpose of delivering some lectures. Dec. 4, 1920.

Surg. Harrison A. Greaves, Reserve. Relieved from duty in the U. S. Public Health Service Hospital at Markleton, Pa., proceed to Fox Hills, Staten Island, N. Y., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital for duty.—Nov. 30, 1920.

Surg. Edward K. Moore, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 1, 1920. Proceed to New Haven, Conn., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, for duty.—Dec. 1, 1920.

P. A. Surg. Charles R. Andrews, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 1, 1920. Continue on duty with the Federal Board for Vocational Education, Atlanta, Ga.—Dec. 4, 1920.

P. A. Surg. Howard W. Barker, Reserve. Proceed to New York City for the purpose of investigating the matter of Service property at the U. S. Public Health Service Hospital, No. 61, Fox Hills.—Nov. 30, 1920.

P. A. Dental Surg. Lloyd Y. Beers, Reserve. Proceed to Perryville, Md., for the purpose of inspecting the dental section of the Supply Depot.—Dec. 6, 1920.

P. A. Surg. Harold T. Bidder, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 1, 1920. Report to the Chief, Inspection Section, Washington, D. C., for duty.—Dec. 1, 1920.

P. A. Surg. A. T. Clopton, Reserve. Relieved from duty at the U. S. Public Health Service Hospital, Houston, Texas, proceed to Staten Island, N. Y., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, No. 61, Fox Hills, N. Y., for duty and instruction in Physiotherapy.—Dec. 2, 1920.

P. A. Surg. Lee T. Ferrell, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 15, 1920. Proceed to Oten, N. C., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital for duty.—Dec. 1, 1920.

P. A. Surg. David R. Higbee, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 10, 1920. Proceed to Camp Kearny, California, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 1, 1920.

P. A. Surg. Eugene E. Munier, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 10, 1920. Proceed to St. Louis, Mo., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, 5800 Arsenal Street, for duty, preliminary to being transferred to the Wesley Hospital, Kansas City, Mo., about January 1, 1921.—Dec. 1, 1920.

P. A. Surg. Robert L. Russell, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 6, 1920. Proceed to the U. S. Public Health Service Hospital, Oteen, N. C., report to the Medical Officer in Charge for duty.—Dec. 1, 1920.

P. A. Dental Surg. George N. Serre, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 1, 1920. Continue on duty in the U. S. Public Health Service Hospital, Houston, Texas.—Dec. 4, 1920.

A. A. Surgeon N. Andronis. Relieved from duty with the Division of Venereal Diseases proceed to Galveston, Texas, report to A. A. Surgeon E. W. F. Stephen, for duty at the relief station, that place for duty.—Dec. 2, 1920.

A. A. Dental Surgeon Henry G. Fain. Proceed to Biltmore, N. C., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital No. 45, for duty in the dental clinic.—Dec. 1, 1920.

A. A. Dental Surgeon Guy H. Jones. Proceed to Palo Alto, Calif., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty in the dental clinic.—Dec. 1, 1920.

A. A. Dental Surgeon E. J. Phillips. Report to the Supervisor, 11th District, Denver, Colorado, for duty in the Dental Clinic.—Nov. 30, 1920.

A. A. Surgeon R. B. Norment, Jr. Proceed to

Washington, D. C., for the purpose of conference relative to Venereal Diseases.—Dec. 3, 1920.

A. A. Surgeon James F. Rogers. Proceed to New York City, for duty in connection with Field Investigations of Industrial Hygiene and Sanitation.—December 1, 1920.

A. A. Dental Surgeon Geo. A. Rogers. Report to the Supervisor, 13th District, Seattle, Washington, for duty in the Dental Clinic.—Dec. 4, 1920.

A. A. Dental Surgeon F. J. Rogers. Proceed to Staten Island, N. Y., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital No. 61, Fox Hills, for duty as Chief of the Dental Service.—Dec. 4, 1920.

A. A. Dental Surgeon A. J. Trainer. Proceed to Minneapolis, Minn., report to the District Supervisor, for assignment to duty in the Dental Clinic.—Dec. 3, 1920.

Scient. Asst. Willard C. Smith. Proceed to New York City for the purpose of conference with different companies relative to various venereal disease control measures.—Dec. 4, 1920.

Asst. Dir. of Edu. Work W. R. May. Proceed to Washington, D. C., for the purpose of giving data to the All-American Conference on Venereal Disease Control.—Dec. 1, 1920.

Asso. Medical Purveyor Jesse E. Sasser. Proceed to Philadelphia, Pa., reporting to the Medical Officer in Charge for conference relative to the work of the Material Officer in the Public Health Service Hospital at that station.—Dec. 2, 1920.

Admin. Assistant P. Jensen. Report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, Washington, for temporary duty, as Material Officer.—Dec. 1, 1920.

Admin. Assistant Ernest B. Maxwell. Relieved from duty at the U. S. Public Health Service Hospital, Biltmore, N. C., proceed to Waukesha, Wisconsin, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty, as Chief Clerk, Dec. 3, 1920.

Admin. Assistant J. A. Reily. Relieved from duty in the Marine Hospital, Washington, proceed to Dwight, Illinois, report to the Medical Officer in Charge of the U. S. Public Service Hospital that place for duty as Chief Clerk.—Dec. 2, 1920.

Boards Convened

A Board of Medical Officers is hereby convened to meet at the call of the Chairman at Manila, P. I., for the purpose of examining Assistant Surgeon Vance B. Murray in order to determine fitness for promotion to the grade of P. A. Surgeon.—Dec. 4, 1920.

Detail for the Board:

P. A. Surgeon C. J. McDevitt, Chairman.

P. A. Surgeon D. J. Prather, Recorder.

Boards Convened

A Board of Officers is hereby convened to meet at the Relief Station, 416 Central Building, Seattle,

Washington, 10:00 A. M., December 10, 1920, to make a physical examination of Lt. Commander J. R. Besse, of the Coast Guard Service and other officers of the Coast Guard as may be ordered to report for physical examination for promotion.—Dec. 2, 1920.

Detail for the Board:

P. A. Surgeon P. I. Carter, Reserve, Chairman.

A. A. Surgeon Wm. H. Morse, Recorder.

A Board of Medical Officers is hereby convened to meet at 10:00 A. M., for December 12, 1920, with a Board of Officers of the Coast Guard Service for the purpose of making a physical examination of Coast Guard Officers for retirement.—Dec. 4, 1920.

Detail for the Board:

P. A. Surgeon Paul I. Carter, Reserve.

P. A. Surgeon E. W. White, Reserve.

A Board of Medical Officers is hereby convened to meet at 10:00 A. M., December 12, 1920, with a Board of Officers of the Coast Guard Service for the purpose of making a physical examination of Coast Guard Officers for retirement.—Dec. 4, 1920.

Detail for the Board:

P. A. Surgeon J. F. Pruett, Reserve.

Asst. Surgeon Lynne A. Fullerton.

Official:

H. S. CUMMING,
Surgeon General.

List of Changes of Duties and Stations of Commissioned and Other Officers of the United States
Public Health Service for the Seven Days
Ended December 15, 1920

Asst. Surg. Gen. C. C. Pierce. Proceed to New York, N. Y., for the purpose of attending a postponed meeting of the Advisory Board of the Seamen's Service Center in that City.—Dec. 14, 1920.

Asst. Surg. Gen. John R. McDill, Reserve. Proceed to Philadelphia, Pa., for the purpose of attending the 11th Annual Conference of Industrial Physicians and Surgeons to be held December 17, 1920.—Dec. 9, 1920.

Sen. Surg. Charles E. Banks. Report to Assistant Surgeon General C. C. Pierce, Chairman of the Board, at 10:00 A. M., December 20, 1920, Butler Building, for the purpose of a physical examination relative to waiting orders.—Dec. 11, 1920.

Sen. Surg. G. M. Magruder, Proceed to Norfolk, Va., for the purpose of inspecting possible sites for a proposed Public Health Service Hospital at that place.—Dec. 13, 1920.

Surg. Taliaferro Clark. Attend the meeting of the section program officers of the Amer. Public Health Association, to be held at the Washington Hotel, Washington, D. C., December 10, 1920.—Dec. 9, 1920. Proceed to Philadelphia, Pa., for the purpose of attending the 11th Annual Conference of Industrial Physicians and Surgeons to be held December 17, 1920. Dec. 9, 1920. Designated as the Representative of the Public Health Service on a Committee on

Health Education of School Children, National Child Health Council.—Dec. 10, 1920.

Surg. Joseph Goldberger. Proceed to Marcus Hook Quarantine, Pa., for the purpose of conferring with Surgeon H. McG. Robertson regarding suspected case of typhus fever.—Dec. 9, 1920. Designated as the Representative of the Public Health Service on a Committee of Foods and Nutrition, National Child Health Council.—Dec. 10, 1920.

Surg. E. H. Mullan. Proceed December 15 to Baltimore, Md., for the purpose of securing employees for duty at the hospital under your charge.—Dec. 13, 1920.

P. A. Surg. Geo. Parcher. Relieved from duty in charge of the U. S. Public Health Service Hospital at Arrowhead Springs, Calif., effective December 15, 1920. Proceed to Kansas City, Mo., for the purpose of assuming charge of the Wesley Hospital at that place when turned over to the Service about January 1, 1921.—Dec. 8, 1920.

P. A. Surg. J. C. Wilson. Proceed from Perryville, Md., to Baltimore, Md., for the purpose of a conference with the District Attorney at that place relative to the robbery at the station under your charge.—Dec. 10, 1920.

Asst. Surg. R. B. Norment, Jr. Detailed to act as the representative of the Division of Venereal Diseases for the State of Maryland.—Dec. 14, 1920.

Sen. Surg. James E. Dedman, Reserve. Proceed to Washington, D. C., for the purpose of a conference with the Surgeon General.—Dec. 13, 1920.

Surg. David M. Gardner, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 3, 1920. Proceed to Perryville, Md., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 3, 1920.

Surg. Paul E. Johnson, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921. Proceed to Houston, Texas, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 13, 1920.

Surg. J. D. Jungman, Reserve. Proceed to Washington, D. C., for conference with the Surgeon General.—Dec. 6, 1920.

Surg. James M. McNall, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 31, 1920. Proceed to Oteen, N. C., reporting to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 10, 1920.

Surg. G. W. Phillips, Reserve. Relieved from further duty in the U. S. Public Health Service Hospital at Oteen, N. C., proceed to St. Paul, Minn., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, (Aberdeen) for duty.—Dec. 13, 1920.

Surg. Frank R. Sedgley, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public

Health Service, effective Dec. 11, 1920. Proceed to the U. S. Public Health Service Hospital, Fox Hills, Staten Island, N. Y., report to the Medical Officer in Charge of that hospital for duty.—Dec. 7, 1920.

Surg. John T. Sprague, Reserve. Relieved from temporary duty in the Public Health Service Hospital, Fort McHenry, Baltimore, Md., proceed to Fox Hills, Staten Island, N. Y., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 6, 1920.

Surg. Harry R. Reynolds, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 17, 1920. Proceed to Kansas City, Mo., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, (Wesley) that place for duty.—Dec. 13, 1920.

P. A. Surg. Harold W. Brann, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 15, 1920. Proceed to Waukesha, Wisconsin, report to the Medical Officer in Charge of the U. S. Public Health Hospital that place for duty.—Dec. 11, 1920.

P. A. Surg. Ernest D. Hatch, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 16, 1920. Remain on duty in the Supervisor's Office, Boston, Mass.—Dec. 13, 1920.

P. A. Surg. S. H. James, Reserve. Relieved from duty in the U. S. Public Health Service Hospital at Prescott, Arizona, proceed to Tucson, Arizona, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital at that place for duty.—Dec. 8, 1920.

P. A. Surg. Guy F. Robinson, Reserve. Proceed to Greenville, S. C., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty, upon the termination of leave of absence.—Dec. 13, 1920.

P. A. Surg. Frank W. Schwarz, Reserve. Relieved from duty Tacoma, Washington, proceed to Boise, Idaho, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 10, 1920.

Asst. Dental Surg. DeWitt T. Baker, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 16, 1920. Remain on duty at the Mt. Alto Hospital, Washington, D. C.—Dec. 13, 1920.

Asst. Surg. Charlton R. King, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective December 15, 1920. Proceed to Oteen, N. C., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 11, 1920.

Asst. Dental Surg. Ralph L. Morrison, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 16, 1920. Remain on duty in the Dental Section, Washington, D. C.—Dec. 13, 1920.

Asst. Surg. Milton J. Quinn, Reserve. Ordered to

active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 16, 1920. Remain on duty in the Marine Hospital, Chelsea, Mass.—Dec. 13, 1920.

Asst. Surg. C. W. Yokley, Reserve. Relieved from duty in the U. S. Public Health Service Hospital, Houston, Texas, proceed to Oteen, N. C., report to the Medical Officer in Charge of the Public Health Service Hospital that place for duty.—Dec. 13, 1920.

A. A. Surg. John M. Christian. Relieved from duty in the U. S. Public Health Service Hospital, Greenville, S. C., proceed to Fort Bayard, N. M., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 10, 1920.

A. A. Dental Surg. Wm. G. Gaffeken. Proceed to Cincinnati, Ohio, report to the Supervisor, 7th District, Lincoln Inn Court Building, for assignment to duty in the dental clinic, about January 10, 1921.—December 9, 1920.

A. A. Surg. Albert S. Gray. Upon the arrival of A. A. Surgeon Samuel E. Lee, stand relieved from duty at the General Supply Depot, Atlanta, Ga., proceed to New York City, for duty in the office of Industrial Hygiene and Sanitation in connection with Field Investigations in Industrial Hygiene and Sanitation.—Dec. 11, 1920.

A. A. Surg. Samuel E. Lee. Relieved from duty at the Old Hickory Powder Plant, proceed to the General Supply Depot, Atlanta, Ga., for duty as Medical Officer in Charge of the Relief Station at that Depot.—Dec. 11, 1920.

A. A. Dental Surg. E. M. Sheehan. Proceed to Oteen, N. C., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital for assignment to duty in the dental clinic.—Dec. 14, 1920.

A. A. Dental Surg. I. W. Shields. Proceed to Fort Bayard, N. M., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, for assignment to duty in the dental clinic about January 1, 1921.—Dec. 8, 1920.

A. A. Dental Surg. L. W. Swartz. Proceed to Prescott, Arizona, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital for assignment to duty as Chief of the Dental Service.—Dec. 8, 1920.

A. A. Surg. John A. Turner. Proceed to Brewster, Fla. for the purpose of making a survey of the phosphate mines at that point. Also proceed to places in the vicinity of Tampa, Fla. as necessary.—Dec. 8, 1920.

Regional Consultant Daisy O. Robinson. Proceed to New York City for the purpose of carrying out instructions relative to the duties to be performed in connection with the Woman's Council.—Dec. 10, 1920.

Regional Consultant Lee A. Stone. Proceed to Washington, D. C., for conference about Dec. 23, 1920, for conference with the officer in charge of the Division of Venereal Diseases.—Dec. 13, 1920.

Scientific Assistant Willard C. Smith. Proceed to New York City for the purpose of conferring with officials in the F. W. Woolworth Company, American Telephone & Telegraph Co., General Electric Company and other organizations relative to venereal disease control measures.—Dec. 4, 1920.

Asst. Dir. of Edu. Work. Benjamin C. Greenberg. Proceed to New York City for conference with officials of the American Social Hygiene Association.—Dec. 13, 1920.

Asst. Dir. of Edu. Work. J. A. Van Dis. Proceed to Washington, D. C., for the purpose of conferring with officials of the Division of Venereal Diseases relative to preparation of the Keeping Fit exhibit as a measure of combatting venereal diseases.—Dec. 14, 1920.

Adm. Assistant Arthur T. Follett. Relieved from duty at the Marine Hospital Division Washington, D. C., proceed to Biltmore, N. C., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty as Registrar.—Dec. 10, 1920.

Adm. Assistant Maurice Gertlin. Relieved from duty at the U. S. Public Health Service Hospital, Hudson Street, New York, N. Y., proceed to Tucson, Arizona, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty as Chief Clerk.—Dec. 8, 1920.

Adm. Assistant Benjamin Goldstein. Relieved from duty at the Marine Hospital Division, Washington, D. C., proceed to Tucson, Arizona, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty as Material Officer.—Dec. 8, 1920.

Adm. Assistant Harry McCown. Relieved from duty at the U. S. Pellagra Hospital, Spartansburg, S. C., proceed to Knoxville, Iowa, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 13, 1920.

Adm. Assistant Mark S. White. Relieved from duty at the U. S. Public Health Service Hospital, Hoboken, Pa., report to the Medical Officer in Charge of the Wesley Hospital, Kansas City, Mo., for duty as Material Officer.—Dec. 8, 1920.

Casualty

Acting Assistant Surgeon Samuel R. Johnson, who was on duty at Denver, Colo., died Dec. 6, 1920.—Dec. 10, 1920.

Boards Convened

A Board of Officers is hereby convened for the purpose of making a physical examination of Coast Guard employes, at 10:00 A. M., December 17, 1920, to meet at the Public Health Service Hospital, Biltmore, N. C.—Dec. 7, 1920.

Detail for the Board:

P. A. Surgeon G. A. Kempf, Chairman.

P. A. Surgeon G. C. Freeman (R), Member.

A Board of Officers is hereby convened for the purpose of making a physical examination of Coast Guard employes, at 10:00 A. M., December 17, 1920,

to meet at the Marine Hospital, Chelsea, Boston, Mass.—Dec. 7, 1920.

Detail for the Board:

P. A. Surgeon P. J. Gorman, Chairman.

P. A. Surgeon W. G. Nelson, Member.

A Board of Officers is hereby convened for the purpose of making a physical examination of Coast Guard employes, at 10:00 A. M., December 17, 1920, to meet at the Public Health Service Hospital, Waukesha, Wisconsin.—Dec. 7, 1920.

Detail for the Board:

P. A. Surgeon J. E. Armitage (R), Chairman.

A. A. Surgeon T. C. Clarke, Member.

A Board of Officers is hereby convened for the purpose of making a physical examination of Coast Guard employes, at 10:00 A. M., December 17, 1920, to meet at the Marine Hospital, Key West, Florida.—Dec. 8, 1920.

Detail for the Board:

Surgeon W. R. Warren (R), Chairman.

A. A. Surgeon S. D. W. Light, Member.

A Board of Officers is hereby convened to meet at the call of the Chairman, for the purpose of considering a Revised Surgical Nomenclature for the use of the Public Health Service.—Nov. 20, 1920.

Detail for the Board:

P. A. Surgeon H. W. Barker (R), Chairman.

P. A. Surgeon, J. L. Busby (R), Member.

Asst. Surgeon R. W. Hart, Member.

Attending Specialist W. D. Webb, Recorder.

Official:

J. C. PERRY,

Acting Surgeon General.

List of Changes of Duties and Stations of Commissioned and Other Officers of the United States Public Health Service for the Seven Days Ended December 22, 1920

Asst. Surg. Gen. J. W. Schereschewsky. Proceed to Baltimore, Md., for the purpose of attending a conference of State Health Officers and State Directors to be held December 15 and 16, 1920, relative to problems relating to county health work.—Dec. 14, 1920.

Asst. Surg. Gen. A. J. McLaughlin. Attend the conference on social hygiene held at the School of Hygiene and Public Health of the Johns Hopkins University at Baltimore, Maryland, December 15, 1920.—Dec. 16, 1920.

Asst. Surg. Gen. A. J. McLaughlin. Proceed to Baltimore, Md., December 17, 1920, for the purpose of presiding at a conference to be held on "Preparation of Public Health Budgets."—Dec. 16, 1920.

Surg. J. A. Nydegger. Report to Assistant Surgeon General C. C. Pierce, Chairman of the Board, convened to meet at the Bureau, 10:00 A. M., December 27, 1920, for the purpose of a physical examination in order to determine whether able to resume active duty of any character and in any climate, and its bearing on waiting orders.—Dec. 15, 1920.

Surg. L. L. Lumsden. Proceed to Baltimore, Md.,

for the purpose of attending a conference of State Health Officers and State Directors to be held December 15 and 16, 1920, for the purpose of discussing problems relating to county health work.—Dec. 14, 1920.

Surg. W. A. Korn. Relieved from further duty in charge of the U. S. Marine Hospital, Louisville, Ky., effective December 27, 1920. Proceed to Newport, Kentucky, and assume charge of the U. S. Public Health Service Hospital, (Altamont) that place.—Dec. 17, 1920.

Surg. G. W. McCoy. Proceed to Chicago, Illinois, December 25, 1920, relative to duties in connection with the National Research Council.—Dec. 20, 1920.

Surg. E. H. Mullan. Proceed to Washington, D. C., for a conference with the Chief of the Hospital Division.—Dec. 21, 1920.

P. A. Surg. C. L. Williams. Proceed to Chicago, Illinois, for the purpose of attending a meeting of the Council of the Laboratory Section, American Public Health Association, to be held December 28, 1920.—Dec. 17, 1920.

P. A. Surg. F. A. Carmelia. Proceed to the Bureau for a conference relative to the preparation of your report on the survey of conditions at Narragansett Bay in relation to the pollution of oysters.—Dec. 17, 1920.

Surg. Milton Board, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921. Proceed to Washington, D. C., report to Assistant Surgeon General C. H. Lavinder, for duty in the Marine Hospital Division.—Dec. 14, 1920.

Surg. L. H. Redman, Reserve. Upon the departure of Surgeon W. A. Korn, about Dec. 27, 1920, assume charge of the Marine Hospital, Louisville, Ky.—Dec. 17, 1920.

Surg. W. L. Treadway, Reserve. Proceed to New York City for the purpose of attending a meeting of the Association for Research in Nervous and Mental Diseases, to be held Dec. 28 and 29, 1920, at the New York Academy of Music.—Dec. 17, 1920.

P. A. Surg. David T. Brewster, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective Dec. 20, 1920, proceed to Waukesha, Wisconsin, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 14, 1920.

P. A. Surg. J. L. Busby, Reserve. Proceed to Fort McHenry, Baltimore, Md., for the purpose of consultation with Medical Staff relative to hospitalization of cases of chronic bronchitis.—Dec. 16, 1920.

P. A. Surg. R. H. Ford, Reserve. Proceed to Fort McHenry, Baltimore, Md., for the purpose of taking a course in the diagnosis of tuberculosis to be held at the U. S. Public Health Service Hospital that place, January 3 to 12, 1921.—Dec. 16, 1920.

P. A. Surg. W. A. Lucas, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921, proceed to

Prescott, Arizona, reporting to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 20, 1920.

P. A. Surg. Charles P. Murphy, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921. Proceed to Houston, Texas, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 17, 1920.

P. A. Surg. John C. Rogers, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921, proceed to Waukesha, Wisconsin, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 14, 1920.

Asst. Surg. W. C. Douglass, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service effective January 1, 1921. Proceed to Philadelphia, Pa., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, 24th & Grays Ferry Road for duty.—Dec. 20, 1920.

Asst. Surg. E. A. Reed, Reserve. Relieved from further duty in the U. S. Public Health Service Hospital, 345 West 50th Street, New York, N. Y., proceed to St. Louis, Mo., report to the Medical Officer in Charge of the U. S. Public Health Service, 5800 Arsenal Street, that place for duty.—Dec. 18, 1920.

Asst. Surg. Ben Zion D. Resnick, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective November 16, 1920. Continue on duty in the U. S. Public Health Service Hospital, Greenville, S. C.—Dec. 15, 1920.

A. A. Dental Surgeon Albert F. S. Bedinger. Proceed to St. Louis, Mo., report to the District Supervisor, 6801 Delmar Blvd., for assignment to duty as Assistant to the Chief of the Dental Section.—Dec. 16, 1920.

A. A. Dental Surgeon V. J. B. Brookes. Proceed to Dwight, Ill., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital No. 53, about January 1, 1921, for assignment to duty in the dental clinic.—Dec. 20, 1920.

A. A. Dental Surgeon Carlisle Carson. Report to the Medical Officer in Charge of the U. S. Public Health Service Hospital No. 35, St. Louis, Mo., about Jan. 1, 1921, for assignment to duty in the downtown out-patient dental clinic.—Dec. 18, 1920.

A. A. Surgeon Fauntleroy Flinn. Proceed to the U. S. Public Health Service Hospital, Fort McHenry, Baltimore, Md., January 2, 1921, for the purpose of taking a course in the diagnosis of tuberculosis to be given in that institution from January 3, 1921, to January 12, 1921.—Dec. 18, 1920.

A. A. Dental Surgeon Wm. K. Johnson. Report to the Medical Officer in Charge of the St. Elizabeth's Hospital, Washington, D. C., for duty in the dental clinic.—Dec. 17, 1920.

A. A. Dental Surgeon Homer T. Kemper. Report to the Medical Officer in Charge of the U. S. Public Health Service Hospital No. 35, St. Louis, Mo., about

Jan. 1, 1921, for assignment to duty in the downtown out-patient dental clinic.—Dec. 18, 1920.

A. A. Dental Surgeon William J. Kolb. Proceed to St. Louis, Mo., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital No. 35 about Jan. 15, 1921, for assignment to duty in the downtown out-patient dental clinic.—Dec. 18, 1920.

A. A. Dental Surgeon Sylvester Koontz. Report to the Supervisor. 10th District Minneapolis, Minn., about January 1, 1921, for assignment to duty in the dental clinic.—Dec. 10, 1920.

A. A. Dental Surgeon William P. Lace. Report to the Supervisor, 11th District, Denver, Colorado, about February 1, 1921, for assignment to duty in the dental clinic.—Dec. 18, 1920.

A. A. Dental Surgeon E. R. Latham. Proceed to Boston, Mass., report to the Supervisor of the 1st District, about January 1, 1921, for assignment to duty in the Dental Section of the out-patient clinic.—Dec. 18, 1920.

Adm. Assistant Charles Harlow. Proceed to St. Louis, Mo., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, 5800 Arsenal Street, for temporary duty for the purpose of instructions in the duties of Material Officer.—Dec. 13, 1920.

Adm. Assistant George S. McCue. Relieved from duty at the U. S. Public Health Service Hospital, Dwight, Ill., proceed to Camp Kearny, Calif., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty as Chief Clerk.—Dec. 15, 1920.

Adm. Assistant John C. Pringle. Proceed to Palo Alto, Calif., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital No. 24, for temporary duty.—Dec. 18, 1920.

Attending Specialist Milford Levy. Detached from duty in the State Supervisor's Office, report to the District Medical Officer, Federal Board for Vocational Education for duty.—Dec. 17, 1920.

Assoc. San. Engineer R. E. Tarbett. Proceed to Columbus, Ohio, for the purpose of conferring with the State Health Officials in the preparation of the report on the Salem typhoid epidemic.—Dec. 20, 1920.

Dir. of Edu. Work. E. H. Moore. Proceed to New York City for the purpose of conferring with officials of the American Social Hygiene Association in regard to venereal disease educational measures.—Dec. 15, 1920.

Casualties

Acting Assistant Surgeon J. A. Hedrick, died at Vera Cruz, Mexico, September 26, 1920.—Nov. 29, 1920.

Acting Assistant Surgeon Howard E. Settle, died at Boston, Mass., December 20.—Dec. 22, 1920.

Boards Convened

A Board of Medical Officers is hereby convened to meet at the Bureau, 10:00 A. M., December 27, 1920, for the purpose of conducting the physical examina-

tion of Surgeon J. A. Nydegger, relative to being placed on waiting orders.—Dec. 15, 1920.

Detail for the Board:

Assistant Surgeon C. C. Pierce, Chairman.

Asst. Sur. Gen'l, J. W. Schereschewsky, Member.

Surgeon Edward Francis, Recorder.

A Board is hereby appointed for the purpose of inspecting the U. S. Public Health Service Hospital at Markleton, Pa., to ascertain if this institution should be continued as a hospital to receive beneficiaries of the Public Health Service.—Dec. 14, 1920.

Detail for the Board:

Surgeon F. C. Smith, Chairman.

Dr. H. Emerson, Assistant Dir., B. W. R. T.

Constructing Eng. C. H. Stratton, U. S. P. H. S.

Boards of Medical Officers are hereby convened to meet at the following places 10:00 A. M., Jan. 3, 1921, for the purpose of conducting physical examinations of candidates for appointment to cadetships in the Coast Guard.—Dec. 20, 1920.

Detail for the Board: (Marine Hospital, Mobile, Alabama). Surgeon J. T. Burkhalter, Chairman. P. A. Surgeon T. C. Baumhauer, Reserve, Recorder.

Detail for the Board: (Marine Hospital, Detroit, Michigan). A. A. Surgeon James G. Carr, Chairman. A. A. Surgeon Erwin Eveleth, Recorder.

Detail for the Board: (Marine Hospital, Seattle, Washington). Surgeon Paul I. Carter (Reserve), Chairman. A. A. Surgeon H. C. Burson, Recorder.

Detail for the Board: (Marine Hospital, Philadelphia, Pennsylvania). Surgeon G. L. Collins, Chairman. Surgeon George F. Brewster (Reserve), Recorder.

Detail for the Board: (Quarantine Station, Galveston, Texas). P. A. Surgeon W. F. Fox, Chairman. A. A. Surgeon C. H. Haggard, Recorder.

Detail for the Board: (Marine Hospital, San Francisco, California). P. A. Surgeon Robert A. Jones (Reserve), Chairman. Assistant Surgeon L. A. Fullerton, Recorder.

Detail for the Board: (Marine Hospital, Chicago, Illinois). Assistant Surgeon M. J. Kelly (Reserve), Chairman. A. A. Surgeon E. W. Hanson, Recorder.

Detail for the Board: (Marine Hospital, Savannah, Georgia). P. A. Surgeon T. E. Parrish (Reserve), Chairman. A. A. Surgeon R. L. Rogers, Recorder.

Detail for the Board: (Marine Hospital, Buffalo, N. Y.). P. A. Surgeon T. C. Quick (Reserve), Chairman. P. A. Surgeon G. S. Philbrick (Reserve), Recorder.

Detail for the Board: (Quarantine Station, Ellis Island, N. Y.). P. A. Surgeon A. R. Sweeney, Chairman. Assistant Surgeon R. E. Porter, Recorder.

Detail for the Board: (Marine Hospital, Boston, Massachusetts). Surgeon E. K. Sprague, Chairman. P. A. Surgeon Peter K. Gorman, Recorder.

Detail for the Board: (Public Health Service Hospital, Norfolk, Virginia). Surgeon W. L. Smith

(Reserve), Chairman. P. A. Surgeon A. C. Garton (Reserve), Recorder.

Detail for the Board: (Public Health Service Hospital No. 32, Washington, D. C.). Assistant Surgeon J. J. Bateman (Reserve), Recorder. Assistant Surgeon H. E. Trimble, Chairman.

Detail for the Board: (Marine Hospital, Key West, Florida). Surgeon W. R. Warren (Reserve), Chairman. A. A. Surgeon S. D. W. Light, Recorder.

Detail for the Board: (Marine Hospital, Fort Stanton, New Mexico). P. A. Surgeon James F. Worley, Chairman. P. A. Surgeon S. J. Mann (Reserve), Recorder.

Official:

H. S. CUMMING,
Surgeon General.

List of Changes of Duties and Stations of Commissioned and Other Officers of the United States
Public Health Service for the Seven Days
Ended December 29, 1920

Assistant Sur. Gen. C. C. Pierce. Proceed to New York City, Dec. 29, 1920, for the purpose of attending a meeting of the Advisory Committee of the Seamen's Service Center, to be held in New York City.—Dec. 22, 1920.

Sen. Surg. C. E. Banks. Proceed to Chicago, Illinois, having reported to a Board for physical examination, to await further orders from the department.—Dec. 21, 1920.

Surg. H. G. Ebert. Proceed from Providence to Fall River, R. I., for the purpose of making medical examination of alien crews arriving at the latter place.—Dec. 18, 1920.

Dental Surg. A. J. Beatty, Reserve. Proceed to Philadelphia, Pa., for the purpose of inspecting the Dental Section of the District Supervisor's Office at that station.—Dec. 27, 1920.

Surg. Silas F. Filkins, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921, proceed to Chicago, Illinois, report to the Medical Officer in Charge of the U. S. Marine Hospital for duty.—Dec. 25, 1920.

Surg. Knud Hartnack, Reserve. Relieved from duty in the U. S. Public Health Service Hospital, Houston, Texas, proceed to Fox Hills, Staten Island, N. Y., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 21, 1920.

Dental Surgeon C. S. Lister, Reserve. Directed to confer with the Medical Officer in Charge of the U. S. Public Health Service Hospital, St. Paul, Minnesota, regarding the location of a Dental Clinic to be established at that station.—Dec. 28, 1920.

Surgeon A. J. Ostheimer, Reserve. Proceed to New York, N. Y., for the purpose of attending the meeting of the Association for Research in Nervous and Mental Diseases to be held at the Biltmore Hotel, December 28 and 29, 1920.—Dec. 24, 1920.

P. A. Surgeon Frank L. Long, Reserve. Ordered

to active duty in the Reserve Corps of the U. S. Public Health Service, effective Jan. 1, 1921. Continue on duty at Los Angeles, Calif.—Dec. 23, 1920.

P. A. Surgeon John P. Mayer, Reserve. Proceed to Washington, D. C., for the purpose of conference with the Hospital Division, relative to the establishment of a School of Anesthesia.—Dec. 23, 1920.

P. A. Surgeon W. O. Phillips, Reserve. Relieved from further duty in the office of the District Supervisor, Dallas, Texas, proceed to Houston, Texas, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital that place for duty.—Dec. 18, 1920.

P. A. Dental Surg. Oscar Reed, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service effective January 1, 1921. Continue on duty in the Public Health Service Hospital, Houston, Texas.—Dec. 23, 1920.

Asst. Surg. Harry E. Bank, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921. Continue on duty in the District Medical Officer's office, Minneapolis, Minn.—Dec. 23, 1920.

Asst. Dental Surg. James F. Clancy, Reserve. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921. Continue on duty in the U. S. Public Health Service Hospital, Chicago, Illinois.—Dec. 23, 1920.

Asst. Surg. Howard C. Emons. Ordered to active duty in the Reserve Corps of the U. S. Public Health Service, effective January 1, 1921. Continue on duty in the U. S. Marine Hospital, Chicago, Illinois.—December 23, 1920.

Asst. Surg. S. Woldenburg, Reserve. Relieved from duty in the U. S. Public Health Service Hospital (Polyclinic), New York, N. Y., proceed to Chicago, Illinois, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty.—Dec. 20, 1920.

Act. Asst. Surg. John R. Brown. Appointed an Acting Assistant Surgeon in the U. S. Public Health Service, effective January 1, 1921. Proceed to Norfolk, Va., report to the Commanding Officer, U. S. Coast Guard Cutter Manning, for duty as Medical Officer on that Ship.—Dec. 18, 1920.

Act. Asst. Dental Surg. Joseph P. Collins. Proceed to Palo Alto, Calif., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital for assignment to duty in the dental clinic.—Dec. 22, 1920.

Act. Asst. Dental Surg. C. A. Couplin. Proceed to Fort Bayard, N. Mexico, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, for assignment to duty as Chief of the Dental Service.—Dec. 21, 1920.

Act. Asst. Surg. Lydia A. DeVilbiss. Proceed to Kansas City, Mo., for the purpose of making certain physical measurements of a given number of school children in connection with similar studies to be made elsewhere.—Dec. 28, 1920.

Act. Asst. Surg. R. V. Gibbons. Relieved from duty in the U. S. Public Health Service Hospital, New York, N. Y., report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, Hudson Street, New York, N. Y., for duty.—Dec. 28, 1920.

Act. Asst. Dental Surg. Geo. A. Rogers. Report to the Medical Officer in Charge Out-Patient Station, Los Angeles, Calif., for duty in the Dental Clinic.—Dec. 27, 1920.

Act. Asst. Dental Surg. Lyman F. Wagoner. Proceed to Palo Alto, California, report to the Medical Officer in Charge of the U. S. Public Health Service Hospital, that place for duty in the dental clinic.—Dec. 22, 1920.

Regional Consultant W. C. Broadhead. Relieved from duty in the State of Rhode Island, proceed to Washington, D. C., for conference preparatory to being assigned to duty in other territory.—Dec. 21, 1920.

Regional Consultant Daisy M. O. Robinson. Proceed from New York, N. Y., to Trenton, N. J., January 10, 1921, for the purpose of cooperating with the New Jersey State Board of Health in venereal disease control work being carried out.—Dec. 22, 1920.

Regional Consultant Lee A. Stone. Proceed to Chicago, Illinois, resume the duties upon which engaged prior to being ordered to Washington, D. C., in connection with American Social Hygiene work.—Dec. 21, 1920.

Statistician Frank Phillips. Proceed to Atlantic City, N. J., for the purpose of attending the annual conference of the American Statistical Association, to be held December 27 to 29, 1920.—Dec. 28, 1920.

Professor C. W. Stiles. Proceed to Richmond, Va., for the purpose of delivering an address on hookworm disease before the County Health Officers, on Dec. 30, 1920.—Dec. 22, 1920.

Administrative Assistant William G. Beucler. Proceed to Pittsburgh, Pa., for the purpose of making shipment to New York City, of physical examination equipment stored at the U. S. Marine Hospital.—Dec. 23, 1920.

Board Convened

A Board of Officers is hereby convened to meet at the U. S. Marine Hospital, Pittsburgh, Pa., 10:00 A. M., January 3, 1921, for the purpose of making a physical examination of Mr. W. J. Kossler, ex-officer of the Coast Guard Service.—Dec. 28, 1920.

Detail for the Board:

Surgeon H. B. Fralic (R), Chairman.

Asst. Surg. J. L. Potter (R), Recorder.

Official:

H. S. CUMMING,
Surgeon General.

Last Foreign Quarantine Station Goes to Public Health Service

With the transfer, now imminent, of the New York Quarantine Station to the U. S. Public Health

Service, the Federal Government will come into complete possession and administrative control of the country's inner line of defense against disease coming from abroad.

Legislation, first adopted in 1893 and subsequently supplemented, provided for the purchase by the Federal Government of the seaport quarantine stations of such states as might be willing to part with them. Most states were glad to be relieved of the expense of carrying on a work that was essentially one for national rather than local protection; but some of them hesitated to give up local control, especially in the early days when ideas of proper quarantine methods differed radically, owing to the lack of information now available as to the transmission of the great plague diseases.

However, one by one the stations were taken over until only New York was left; and now the agreement for its transfer has been reached and formal action waits only on the presentation by the state of proof of title to the premises.

Public Health Service Forced to Transfer Tuberculosis Patients to the East

All the hospitals and contract hospitals of the U. S. Public Health Service in the semi-arid southwest are already crowded with tuberculosis patients and the influx of others from the Eastern states continues so great that the Public Health Service has been forced to transfer patients from Tucson, Ariz., and other Western hospitals to sanatoriums near Asheville, N. C., and elsewhere in the East.

Many ill-advised patients have of late thronged to Tucson, unmindful of the fact that every hospital bed in that place is filled and every hotel and boarding house overcrowded. More than 500 tuberculosis subjects in Tucson are unable to find entrance to a sanatorium. Other towns in the Southwest report similar conditions.

Surgeon General Cumming again renews his warning against tuberculosis patients leaving sections where the government is able and willing to care for them and going to the southwest on their own initiative.

Public Health Service Institute

The nature of the attendance at the institute of the Public Health Service on venereal-disease control, recently held in Washington furnishes striking evidence of the fact that modern warfare on disease is not exclusively nor even chiefly medical. Prevention, in disease as in everything else, is now considered even more important than treatment; and prevention is very largely a social problem, in solving which every class of the community has its part. Thus, the institute, which conducted two weeks intensive training for 511 medical men and women and social workers, who had come from all parts of the continent to familiarize themselves with the recent marvelous advances in both the medical and the so-

cial aspects of the twin diseases, had among its students more than a hundred physicians of high standing, forty-eight directors of clinics, forty-seven nurses, twenty-two police women, fifteen educators, and about fifty national, state and city health officers, editors, travelers-aid secretaries, athletic directors, Y. M. C. A. secretaries, and representatives of other important social agencies.

BOOK REVIEWS

HUMAN PARASITOLOGY

Human Parasitology, with Notes on Bacteriology, Mycology, Laboratory Diagnosis, Hematology and Serology, by Damaso Rivas, M.D., Ph.D., Assistant Professor of Parasitology and Assistant Director of the Course in Tropical Medicine, University of Pennsylvania. Octavo Volume of 715 Pages with 422 Illustrations and 18 Plates, Most of Which are in Colors. Philadelphia and London: W. B. Saunders Company, 1920. Cloth, \$8.00 Net.

The large part which animal parasites play as causes of human disease has been especially emphasized by war and post-war conditions. This has caused the appearance from the press of several good text-books on the subject,—one of the best of which is one here reviewed. The work considers in a systematic and rather comprehensive way, the various protozoa, worms, insects and related forms. The work has an especially good chapter on the methods of preparing animal parasites for examination and permanent preservation. The brief chapters on bacteriology, hematology and serology might well have been omitted.

The illustrations are good. The references are comprehensive, although several important ones from recent "war" literature are found missing. It is a good work for the student and practicing physician.

Henry Albert.

RADIOGRAPHY IN THE EXAMINATION OF THE LIVER, GALL-BLADDER AND BILE DUCTS

By Robert Knox, M.D. C. V. Mosby Co., St. Louis, \$2.50.

The author reviews briefly the anatomy and pathology of the liver and its appendages, and passes to the details of a series of experiments which he conducted with the excised gall-bladder, pieces of liver, gall-stones, and conditions representing those found in the human body during a radiographic examination of the gall-bladder. These seem to indicate that the best results may be expected by using a tube of fairly high penetration. Most of the "soft" rays are absorbed by the body tissues. This is not the experience of most of the American workers. In the section on technique, particular emphasis is laid on the

value of the lateral position for the differential diagnosis between gall-stones and kidney stones. An interesting chapter is devoted to the differentiation between gall-stones and other conditions which might simulate them on a plate. This is followed by a series of case histories. The last of the book is devoted to a historical review of gall-bladder roentgenology. The book is profusely and beautifully illustrated, and will form a valuable addition to any library.

Bundy Allen.

X-RAY OBSERVATIONS FOR FOREIGN BODIES AND THEIR LOCALIZATION

By Harold C. Gage. C. V. Mosby Co., St. Louis, \$1.75.

This is a thorough and comprehensive treatise on foreign body localization. It is readable, understandable, and is profusely illustrated. The geometric principles upon which all localization is based are carefully presented. More space might have been devoted to the Hirz Compass, which is dismissed with a paragraph, while the section on the localization of foreign bodies in the eye does not even mention the Sweet method, although it is certainly the method par excellence. The book will prove very useful to all those who may have occasion to localize foreign bodies.

Bundy Allen.

OPERATIVE GYNECOLOGY

By Harry Sturgeon Crossen, M.D., F.A.C.S.; Associate in Gynecology in Washington University Medical School, and Associate Gynecologist to the Barnes Hospital; Gynecologist to St. Lukes Hospital, St. Louis Maternity Hospital, and Bethesdsa Hospital; Fellow of the American Gynecological Society. Second Edition; 834 Original Illustrations. C. V. Mosby Company, St. Louis, 1920. Price \$10.00.

An important service rendered to gynecologists by Dr. Crossen in his work and writings has been the clear conception he has given to retrodisplacements and to prolapse of the uterus. The operations for these conditions have been numerous and often confusing. A classification based on anatomical relations has removed much of this confusion. The book shows at once an immense amount of work in the arrangement of the text and the illustrations.

Chapter one is devoted to the classification and technique of retrodisplacement of the uterus. In this chapter the technique of different well known operators are described in their anatomical relations, and illustrated with care and accuracy which enables the reader to determine the procedure appropriate to the particular case.

Chapter two; Prolapse of the Uterus and Bladder.

This, with chapter one, constitute a most valuable part of this or any other book on gynecology. This is indeed the most difficult class of surgery. More general surgeons have come to grief on account of

after results of these operations than from any other class of gynecologic surgery. If anatomical considerations are not taken into account, the patient's condition has not improved and she has become thoroughly conscious of it. With a fair knowledge of surgery and a careful and conscientious study of the text and illustrations, it would appear that the operator should, if he has made a good diagnosis, be able to secure satisfactory results.

The same may be said of chapter four in relation to Pelvic Floor; Relaxation.

Commencing with chapter five, we have to deal with inflammatory and nutritive diseases of the uterus which involves somewhat less accurate operative technique, but an accurate diagnosis.

With chapter six to eight inclusive, we have to consider accurate diagnosis, and accurate technique, because the conditions relate to life saving and comfort to the patient. These conditions include myomectomies and hysterectomies, including operations for carcinoma of the uterus.

Among other methods of treatment the use of heat is discussed, especially the Percy cautery.

An important chapter relates to acute pelvic inflammation, treatment by drainage and by abdominal extirpation, followed by a chapter on Chronic Pelvic Inflammations.

There has been much discussion on the subject of conservative surgery of ovarus and tubes in which Dr. Crossen takes a prominent part, while the discussion is not closed very material progress has been made in recent years, what Dr. Crossen presents is clearly the last word.

The remainder of this important book is devoted to miscellaneous gynecologic affections.

PHYSIOLOGY AND BIOCHEMISTRY IN MODERN MEDICINE

By J. J. R. Macleod, M.B., Professor of Physiology in the University of Toronto, Canada; Formerly Professor of Physiology in the Western Reserve University, Cleveland, Ohio. Assisted by Roy G. Pearce, A. C., Redfield and N. B. Taylor and Others. Third Edition, with 243 Illustrations, Including 9 Plates in Colors, 992 Pages of Text. C. V. Mosby Company, St. Louis, 1920. Price \$10.00.

Dr. Macleod in the preface indicates the purpose of this important book. "Modern Medicine is based on the correlation of laboratory and clinical studies." The author is inclined to criticise the failure of some teachers of medicine to make this fact clear and bring together laboratory study in clinical interpretation. The occasion for this criticism is becoming less and the applications of laboratory studies to clinical medicine is finding a fuller expression in group methods of practice whereby the laboratory man and the practitioner are coming together.

The book before us is not a laboratory manual

but a work for the physician who appreciates the value of physiology as preliminary to a study of pathologic conditions. As an illustration we may refer to the blood and lymph and the circulation of these fluids, 215 pages are devoted to this subject. Blood, general properties, quantity of blood in the body, ferments and anti-ferments; blood corpuscles, conglutination of blood; general considerations; lymph formation and circulation; cerebrospinal fluid; circulation of blood; mean arterial blood pressure; viscosity of the blood; elasticity of vessel walls; action of the heart; pumping action of the heart; mechanism of opening and closing of the valves; heart sounds; nutrition of the heart; physiology of the heart-beat.

The blood flow in the arteries; the pulse and characteristics, pulse curves; rate of movement of blood in the blood-vessels; work of the heart; the output of the heart per beat; the control of the circulation; nerve control of the peripheral resistance; control of the vasomotor center; capillary circulation; peculiarities of the blood supply in certain viscera. Then follow the clinical application of certain physiological method, electrocardiograms; interpretation, 176 pages are devoted to the study of the circulation, 136 pages to respiration. It will be seen from the above illustrations the general trend of the work which may be extended to other systems of the body and to what extent physiology and biochemistry relates to clinical medicine.

A SHORT HISTORY OF NURSING FROM THE EARLIEST TERMS TO THE PRESENT DAY

By Lavina L. Dock, R.N.; Secretary, International Council of Nurses, in Collaboration with Isabel Mailland Stewart, A.M., R.N.; Columbia University, New York. P. P. Putnam's Sons, New York and London. Price \$3.50.

This book should appeal to a wide range of readers who are interested in the cultural side of nursing; physicians, nurses and educated people generally. After an introduction, the author traces an outline of the care of the sick in the ancient world; through the influences of Christianity in the care of the sick, the aristocratic and military influences in the care of wounded soldiers, the democratic and secular influence from the time of Abelard to Ambrose Pare and Vesalius. The dark period in nursing from the breaking up of monastic charity, incident to the Reformation. In Protestant countries the suppression of the monastic orders, where charity and nursing had been an important influence, no attempt was made to supply the lack of care for the sick poor. The deterioration of nursing in Protestant countries was also observed in Catholic countries. The condition in nursing was comparable with the condition of education during this period.

We commence again with the appearance of Florence Nightingale. Then comes nursing in American, with the Spanish and French hospitals, under the

direction of Catholic Sisters, and later, the training courses under Catholic and Protestant religious orders. The training schools of hospitals, and the independent training schools. Chapter nine brings us to the modern extension of nursing. First private duty, second hospital service, third visiting nursing, which is considered in considerable detail. Then comes a chapter on educational development in a wider sense in educational and institutional relationship. The author reviews nursing in other countries. The book closes with a review of the past and a vision of the future.

The evolution of nursing goes hand in hand with the evolution of the races of men, of humane aspirations in the different ages of the world, gains momentum with the development of medical science and practice and will in the future, advance with the needs of the world, the advancement of medicine, and the higher standards of hospitals. This book should be in the hands of all interested in humane progress.

GEORGE MILLER STERNBERG, A BIOGRAPHY

By His Wife, Martha L. Sternberg. American Medical Association, Chicago.

In the November number of the Journal, we presented a biographical sketch of former Surgeon General Sternberg, prepared by the Journal of the American Medical Association, we now have the pleasure of reviewing a biography of the General by his wife who presents to the world a record of his work as a man and a public servant.

We have a brief outline of the events of his early life. In October, 1865, Dr. Sternberg married Miss Louisa Russell of Cooperstown, N. Y.; following this event we have now a record of Doctor and Mrs. Sternberg's experiences. First at Jefferson Barracks and then at Fort Harker, Kansas which at one time was a frontier post. Following one assignment after another, brought Dr. Sternberg to Fort Barraricas, Florida, where he served three years, suffered an attack of yellow fever which was near being fatal. After a leave of absence of six months, he was assigned to the Department of Columbia in 1876.

Conditions were comparatively new but very interesting; Mrs. Sternberg describes their life and experiences during the three years in this department. In 1879 Surgeon Sternberg was ordered to Washington to take up his duties as a member of the Havana Yellow Fever Commission, which with other scientific work continued up to 1893 when he was appointed surgeon general of the army. Dr. Sternberg's work during this period is described by his wife in a most intimate and interesting manner. The social relations after his appointment to this high office is dwelt on. This was during Mr. Cleveland's second term and the first part of Mr. McKinley's term up to the breaking out of the Spanish American War. Serving as medical advisor in both Cleveland

and McKinley families furnished a social experience of rare interest.

The condition of unpreparedness which has found us in all wars, brought great difficulties to the surgeon general's office, which Mrs. Sternberg faithfully portrays and which is now vividly recalled when our recent experiences are so fresh in mind.

Surgeon General Sternberg and the medical department of the army could not of course escape criticism for faults that belonged to the nation, and the wife's viewpoint is presented in a quiet and judicious manner fortified with facts, which are now fully admitted. Some space is given to the Walter Reed commission which operated under the direction of the surgeon general.

Surgeon General Sternberg retired from the army June 8, 1902, and the remainder of the book is devoted to scientific achievements and humanitarian interests. This part of the book is full of interest as an appreciation of the man who in a long life of usefulness served his country with distinction and conferred upon the army great honor.

The book is a valuable contribution to our knowledge of army medical activities which covers the period of discovery of the nature and origin of infectious diseases and marks a new era in medical knowledge.

THE SURGICAL CLINICS OF CHICAGO

Volume IV, No. 4, with 80 Illustrations, August, 1920. Published Bi-Monthly. W. B. Saunders. Price Per Year \$12.00.

This number contains clinics by seventeen different surgeons including thirty-two subjects. It is interesting to observe that since the publication of the Chicago Surgical Clinics, new groups of surgeons are appearing, although we still recognize Dr. Ochsner, Bevan, Eisendrath and Kanaval. The later groups represent the surgery of the various Chicago hospitals of today and bears witness to the changes in personnel in the profession. The clinics fairly represent the surgical progress in Chicago.

CARE AND FEEDING OF INFANTS AND CHILDREN

A Text-Book for Trained Nurses, by Walter Reeve Ramsey, M.D., Associate Professor of Diseases of Children, University of Minnesota, Associate Visiting Physician of the University Hospital. Including Suggestions on Nursing by Margaret B. Lettice, Supervising Nurse of the Baby Welfare Association, St. Paul, Minnesota; 123 Illustrations, Second Edition, Revised. J. B. Lippincott Company, Price \$2.50 Net.

We are presenting one of Lippincott Nursing Manuals which is a very attractive book and contains much of particular interest. It is well adapted to advanced communities where health and welfare

(Continued on Advertising Page xviii)

The Journal of the Iowa State Medical Society

VOL. XI

DES MOINES, IOWA, MARCH 15, 1921

No. 3

BRAIN INJURIES*

ALANSON M. POND, M.D., F.A.C.S., Dubuque

Within the past few years, almost every operation in the entire domain of surgery, has been standardized, except the surgery of the head.

There exists a wide range of opinion concerning operative indications for the surgery of the head, which is no less confusing than the opinions of operators suggesting technic for the treatment of the commoner conditions of brain injury demanding surgical care and attention.

Seemingly, it is evident, from quite an extensive reading upon the subject of brain surgery, it requires very often exceptional good judgment to know just when to not operate upon the head, and it is also somewhat perplexing to know that the procedure contemplated gives promise of the best obtainable result.

Refined methods of diagnosis are being constantly contributed to literature by the workers in this branch of surgery, and the fruit of their experience constantly changes the indication for operative interference.

Owing to the anatomical fact that the brain is an exceedingly vascular organ, and that it is enclosed in a tough fibrous membranous capsule, and that all is confined within an inflexible bony box of fixed capacity, the brain is subjected to a variety of different pathological conditions than are not encountered elsewhere in the body.

Almost any injury of even moderate severity to the head, immediately presents three strikingly separate and distinct conditions. Contusion of the scalp, which is a composite tissue. trauma to the skull, which is inflexible; and vascular disturbance of the brain.

Either or all of these conditions may require surgical care, but the most important of these injuries is the trauma of the brain which commonly is urgent, by demands of surgical care.

The time honored classification of concussion; contusion and compression were indefinite at-

tempts at analysis. To be sure, they defined the symptoms immediately noted rather accurately, but at present, in the light of our increased knowledge of the pathology of brain injuries, they are woefully lacking in conveying an understanding of the extent, immediate, or remote of the trauma of the brain.

There cannot well, be a defined line dividing the cases of simple traumatic unconsciousness due to injury, and concussion, no more can there be a distinct border line established, when the brain that has suffered concussion, passes to the secondary stage and by reason of oedema or hemorrhage becomes a case of compression.

The conditions of contusion, are more readily recognized, by the intensity of all the symptoms, and an observing attendant may anticipate the compression period and can with reasonable accuracy foretell its occurrence.

Usually in severe head injuries, concussion merges into a state of compression; especially is this true where the structure of the brain has been damaged, or where hemorrhage has occurred.

The following history conforms rather accurately to the usual clinical course.

A young man was knocked down on the street by an automobile, when assistance reached him he was dazed, but was able to stand and with help walked to a nearby house where an ambulance was called and within twenty minutes he was removed to the hospital.

About the time the ambulance arrived his dazed state had passed and he became violently excited and greatly agitated, this was the classical evidence of concussion. Within an hour after reaching the hospital he vomited several times and complained bitterly of headache which was accompanied by a slowing of the pulse, with an increased tension and a dilatation of the pupils, occurring bilateral. This condition was caused by the swelling or hemorrhage and a state of compression was plainly evident.

A skiagram showed a fissure fracture of the left parietal bone just above the parietal eminence. A button of bone was removed which centered over the line of fracture and an extra-dural and sub-dural haematoma was found under the fracture line. The extradural clot was removed but the dura was not

*Presented at the Sixty-Ninth Annual Session, Iowa State Medical Society, May 12, 13, 14, 1920, Des Moines, Iowa.

opened. The symptoms did not subside satisfactorily, and the next day another button of bone was removed from the opposite side of the head, hoping to find an area of contusion caused by contra-coup. Very shortly after the second operation, the temperature which had been about 100, suddenly rose to over 104 and the pulse which had ranged from 52 to 62 suddenly became 120 and continued to mount every hour and diminish in pressure. Death occurred about noon of the second day after injury. This case is cited because of the rather sharply defined stages. The dazed condition announced the concussion, the period of excitement followed by unconsciousness characterized the compression period and the sudden rise of temperature in the absence of any possible infection plainly indicated the presence of the contusion.

Were it not for the tough dura and the inflexible bony skull, injury to the brain could occasion swelling and oedema without the pressure symptoms which give us the clinical picture of concussion, and compression. It is due to this restraint that recent studies prove that even a seemingly insignificant trauma to the brain, which may have been characterized only by brief unconsciousness, and a moderate concussion may remotely show brain cyst, caused by the localized hyperemia, or small hemorrhage, or even by the disturbance of cellular relation.

These cysts are discovered later, by the appearance of focal symptoms long after the injury may have been forgotten, and would not have been recalled by the parent or friends, had not a painstaking history elicited by the examiner, placed importance upon the incident. Doubtless many brain cysts which were the direct result of a trifling trauma have never been discovered, and the individual has gone through life with some marked limitation of intellect, or motor accuracy, that was vaguely described as congenital, because the importance of the injury, if recalled at all, was not considered as contributory.

It would be an interesting study to follow out as far as possible the relation between injuries of the brain and the occurrence of cysts or hydrops of the ventricles, which give a history of trauma either at birth or during childhood. Perhaps some cases of the feeble-minded could thus be explained and certainly a large proportion of the spastic paralyses could be more intelligently understood, and treatment undertaken. I hope that this suggestion may be followed and undertaken by some ambitious and industrious member of this Society.

Radical opinions and unvarying procedures may be tolerated in the surgery of almost every other portion of the body, but certainly they are

out of place when dealing with the brain. For instance, it would be unwise to declare or even believe that all fractures of the vault should be operated upon at a certain time or in a certain place, or, that all cases of compression should invariably be decompressed. Such fixed opinions or practice cannot obtain the best results. The surgeon approaching a case of brain injury requiring treatment, should be in a most receptive mood, and should be led to operation or not, only after a careful analysis of the conditions demanding attention.

The following case will emphasize the difficulties which lie in the way to serve these cases best.

A man of about forty years of age, working in a coal chute of a railroad terminal, fell down the chute about twelve feet and was buried under a large amount of coal on the ground. He was hurried to the hospital and a skiagram revealed a lineal fracture of the left parietal bone near the median fissure. The scalp was contused and lacerated. The head was prepared and the skull was opened and the depressed portion of the fracture was elevated, search was made for the sharp spiculæ of the bone but none were found, showing the fracture was of clean cut depressed type. The extradural haematoma was removed and the pieces of bone replaced and the scalp closed with silk-worm gut drainage, the head was dressed and he was put to bed in an excellent condition.

The second day after injury his temperature was 99.6 and pulse 86, there had been no symptoms of pressure, he suddenly began vomiting, at which time he would complain most bitterly of pain in the left hypogastrium. Naturally the thought immediately occurred that there would be ushered in, evidence of contusion with the high temperature, or a developing pressure, however, his general condition was so good that the cause of the vomiting could not be clinically ascribed to the brain injury. A careful general examination, revealed a tense abdominal wall with a point of exquisite tenderness in the upper left quadrant. A laparotomy was done hurriedly and a small tear of the lower border of the spleen was discovered. This was sutured, the abdominal cavity was emptied of clots and the abdomen closed. The patient made a prompt and uneventful recovery.

It would seem that a proper analysis of the symptoms of concussion, contusion and compression might be undertaken at this time with profit. All injuries to the head present some of these three conditions and much information may be obtained if the time of occurrence, interval of appearance and the sequence of the merging of the one stage into another be properly understood.

Quervain gives the following maxim of diagnosis of concussion. "Any cerebral symptoms

manifested by a patient immediately after an injury to the skull, either of unconsciousness; of disturbance of the medulla; of irritability or paralysis, point to his suffering from concussion of the brain. We cannot tell whether there be further mischief for we must await subsequent developments." He further adds "such a statement will save both ourselves and relatives from being consoled with simple concussion, while the patient succumbs to pressure of the brain." The "further mischief" refers to brain contusion on the one hand and meningeal hemorrhage and gradually increasing pressure on the other.

Contusion implies a mechanical damage or injury to the nerve structure, and this may be, and in fact, usually is, preceded by the stage of concussion. Histological examination furthered by experiment however, show that severe trauma to the head, causes serious circulatory and destructive damage to nerve tissue. Certain areas of the brain register the injury more vividly than other areas, viz., the motor areas involved are more readily recognized by impaired function than are the disturbances of the reasoning centers. It might be mentioned in this connection that injuries to the medulla are almost always promptly fatal.

The one conspicuous symptom which points unerringly to contusion, is a persistent and increasing rise in temperature, which appears from twenty-four to forty-eight hours after injury. Some observers attribute this constant symptom to the irritation of the corpus striatum. This rise in temperature should not be confounded with the pyrexia commonly found in the presence of a hæmatoma, as the temperature of a bleeding point seldom reaches 102, while the fever of contusion seldom starts below 104 in spite of any attempts to control. To quote Quervain again. "A patient who immediately after an injury to the skull, manifests brain symptoms which persist for a whole day and which do not fit in with the signs of a gradually increasing cerebral pressure, has sustained a contusion of the brain in the broadest sense of the term. This view is supported by the presence of irritative or localizing symptoms arising from cortical areas of ascertained function. It is definitely confirmed by a high and increasing persistent rise in temperature which cannot be explained by infection from without."

Cerebral pressure follows either concussion or contusion. In the cases of severe injury the merging from the one stage to the other cannot be defined. The symptoms of pressure are caused by a hemorrhage and the consequential swelling of brain tissue following severe concussion or

"molecular trauma." The commonest cause is from hemorrhage from a torn vessel. An experiment proves that bleeding to the extent of two oz. can occur without any appreciable effect upon the cerebral pressure. Hence, the manifestation of hemorrhage may be somewhat delayed after injury. During this interval, conspicuous symptoms of brain injury may be and usually are lacking, and this period of "no symptoms" varies with the extent or amount of hemorrhage and ranges from ten minutes to a day or more. This stage is then followed by the period of (1) increased cerebral pressure evidenced by headache, mental irritability, and slowing of the pulse rate with increase of its tension; (2) the state of complete pressure evidenced by the foregoing symptoms plus some paralyses and then comes the (3) the paralytic period proper, when the irritability has give place to coma and Cheyne-Stokes respiration and an irregular pulse announce the termination.

The chief diagnostic symptoms of cerebral pressure may be summed up very briefly as follows:

Headache which increases in severity until unconsciousness occurs, and is unrelieved by any treatment unless perchance it may be lumbar puncture. Vomiting, which must be definitely assigned to cerebral causes and is usually concomitant with slow high tensioned pulse and fixity of pupils, but even then should be confirmed by the elimination of other possible causes. The degree of consciousness will vary according to the time examination is made after injury. If seen early, the patient is apt to present a clear and deliberative mentality, and if the hemorrhage is not severe or negligible may remain practically normal. The presence of excitement or delirium increases with the beginning of pressure and diminishes as the pressure becomes severe and then very shortly merges into coma which indicates a grave condition. While these symptoms of pressure are progressing the pulse character has markedly changed, increasing in tension and at first slowing in frequency until the state of coma is ushered in with the Cheyne-Stokes breathing and then the pulse becomes more rapid in frequency and diminished in pressure until it is scarcely, if at all, perceptible at the wrist.

The site of hemorrhage is most commonly, the main trunk of the middle meningeal artery, next in frequency, is the anterior branch, and third in frequency, is the posterior branch. When the main trunk or the anterior branch of the artery is damaged, the hemorrhage will take place beneath the squamous portion of the temporal bone, when

the posterior branch is torn the hæmatoma will occur beneath the temporal bone proper, but as stated above, this location is not frequent. Occasionally the bleeding will occur on the opposite side of the head from the site of injury due to contra-coup.

The most distinctive symptom leading to an accurate location of the injury is the character and comparison of the pupils. The fixed dilated pupil always indicates the side and the site of hemorrhage.

The question of whether the hemorrhage is extra-dural or sub-dural, may usually be determined. The extra-dural vessels are larger than the sub-dural, hence the hemorrhage from the extra-dural vessels, usually the middle meningeal, will be more severe than from the smaller vessels of the sub-dural structures, and consequently the interval between the injury and the beginning of symptoms will be shorter and the gravity increased. Furthermore, sub-dural hemorrhage is usually due to contusion of brain substance and will be indicated by a prompt rise in temperature.

The most positive diagnostic aid in injury of the brain is doubtless lumbar puncture. This procedure was beginning to have recognition before the war, and since the observation of surgeons in service, it has taken the place of the pre-eminent diagnostic procedure.

Baumel, in the Lyon Surgical Journal, concludes that "simple concussion and wounds of the scalp penetrating and non-penetrating are always accompanied by an increase in cerebro-spinal pressure." Some of the most positive findings in the character of the spinal fluid indicating injury to the brain are as follows: A frankly blood tinged spinal fluid indicates subarachnoid hemorrhage; a fluid, at first clear, and later becoming blood tinged, indicates a severe concussion or slight contusion. A simple fracture of the skull is characterized with a cloudiness and thickening of the spinal fluid.

The chemical analysis of the fluid is equally interesting and instructive. Thus we learn that albumen is increased only in penetrating wounds. The range of increase of albumen content varies from 0.3 to 0.8 grms to 1000 c.c., and that the increase in albumen will persist as long as the hypertension exists. Lymphocytosis demonstrated by cytological examination always indicates meningitis or sub-acute irritation. Polynucleosis characterizes the more acute stages and is usually progressive and indicates a grave prognosis.

As intimated early in this discussion, there can be no fixed rules governing the surgical treatment of brain injuries. The condition of the pa-

tient's vital forces; the extent of the injury; the time of onset as related to injury, and the gravity of the symptoms all contribute to point the way to intelligent treatment.

Continued headache is usually relieved by lumbar puncture, however, this procedure is at best an expedient, and should not be resorted to repeatedly. Cases which are not relieved by puncture repeated perhaps once, will do far better by a decompression, all other things considered.

The time honored shaving of the scalp for the removal of the hair, is being rapidly replaced in the larger clinics by the use of a solution of barium sulphate. Shaving at best is a tedious process, and is attended by much annoyance of dull razors, cutting the scalp and causing troublesome oozing when time is most precious, and after the scalp is shaved, there will frequently remain areas of improperly removed hair.

The solution of barium sulphate may be applied by a brush and applied briskly to all portions of the hair covered surface and the hair may be completely wiped from the surface of the scalp with a moist piece of gauze, after which the scalp may be washed with sterile water and any surgical technic applied as may be desired. This procedure does the hair follicles no harm and its only disadvantage is its rather pungent odor.

Hæmostasis of the scalp has always been a problem of technic for the surgeon to overcome. Tourniquets of any form have failed to render the field of operation bloodless. The rubber tube held by a clamp is the simplest form of pressure appliance, and properly placed and used sufficiently snug in its tension, doubtless, offers less objection and better service than any other form of tourniquet in use. However, the hæmostatic safety pin described by Friedman in Surgery, Gynecology and Obstetrics, 1915, is the nearest approach of blood control of the scalp. The author's caution in using the pin, to hug the bone closely in applying the lower arm will be rewarded by satisfactory results.

The question of controlling the intra-cranial bleeding is another much debated technic. Sir Victor Horsley some few years ago conducted a series of experiments with muscular fragments applied to the bleeding point in the brain structure, and comes to the conclusions that this technic is most efficient as a hæmostatic procedure, besides possessing the desirable qualities of asepsis; adhesion and thrombokinosis. His technic consists of taking a small sliver of muscle and applying it with pressure on a piece of gauze previously moistened in salt solution to the bleeding point. Moderate pressure is maintained for from

fifteen to twenty seconds. The muscle fragment readily adheres to the bleeding point if accurately applied and becomes rapidly organized in the vessel repair.

What shall be done with the sub-dural hæmatoma? Almost every surgeon of experience has some very positive opinions concerning the best course to pursue, and so far the honors seem about equally divided, both from the standpoint of argument, and as the fruit of experience.

Leriche in the Lyons Surgical Journal, reporting 397 cases, makes it a practice never to open the dura if found intact; even in cases where the clot is extensive and contusion of the brain considerable, and although the dura may be immobile and tension apparent. He bases his emphatic objection upon his experience of inevitable infection and compulsory drainage, which follows the opening of the dura which is almost always avoided by leaving it intact.

In the cases where the dura is torn or slit, and the clot or contusion are easily reached; the debris should be gently removed and an ample rubber drainage employed. The outer end of the tube should be enveloped in a copious loosely applied gauze dressing to receive the discharges, and this should be changed as frequently as it becomes soiled, especially during the early period of repair.

Gauze drains, even when protected by gutta percha, or other non-adherent material, have no place in brain surgery, as the discharging ability of gauze is not sufficient to meet the demands, and the meshes of the gauze become choked, and thus defeat the very purpose of its use.

Where the operation of decompression seems indicated, care should be exercised that the site chosen is as far removed from the motor areas as possible; frequently grave injuries have resulted to the motor tracts by a misplaced decompression. When decompression has failed to bring the expected result, puncture of the corpus callosum has given brilliant results in the hands of Elsberg and Frazer.

Cranial pressure observed in the injured brain is due to three common factors: (a) swelling and œdema of the injured brain substance; (b) hemorrhage, especially where an extra-dural vessel is torn and the hemorrhage is rapid and extensive, and (c) the rapid increase of the ventricular fluid, or the state of internal hydrocephalus.

Obviously then, if the symptoms of pressure are not promptly relieved by the decompression, and evidence of œdema or hemorrhage are not evident by the operation, spinal puncture will re-

lieve the tension of the ventricles, and if relief is afforded for a time, to be followed by a recurrence of the pressure symptoms, puncture of the corpus callosum would plainly be the indicated operation.

It would be impossible at this time to enter into even a brief discussion of the subject of fractures of the skull. These fractures have never been successfully classified only in the most general manner, concerning location, and character. And these factors concerning fractures of the head are for the most part immaterial. The bony injury as a fracture is usually the least important of the considerations of head injuries, the real attention is directed to the damage and extent of injury imposed upon the brain and its coverings and to the vessels supplying these structures.

So, skull fractures really are involved in the considerations of brain injury only as contributory factors, and as such deserve a more extended study than the scope of this paper will permit.

Discussion

Dr. Amos G. Shellito, Independence—From a brief study of Dr. Pond's paper I am convinced that he has succeeded in doing what every author aims, or should aim, to do. He has condensed in a twenty-minute paper the very latest facts concerning the topic on which he writes. Any one who has done brain surgery at all has had some great disappointments in his results, and he has also had some brilliant recoveries. We can remember the brilliant results in our cases, but are apt to forget the failures. In the beginning of his paper the essayist reminds us of the fact that in no branch of surgery are the guides to operative procedure, or the indications for such procedure, so indefinite as in that of the head, which has been true. He then proceeds to point out the difference between contusion and concussion, marks out the symptoms of pressure, one of the most important of all the diagnostic requirements because it is the pressure from the injury that frequently causes death. Not only does he go into the more common phases of brain injury, but I wish to speak of one particular phase brought out by him and concerning which, so far as my knowledge goes, there has been but little written; and that is forgotten perhaps, probably slight trauma of the head followed by more or less characteristic localized symptoms which may be motor or mental or both, possibly months or years afterwards, due to cystic degeneration. Perhaps many of you noticed in the last issue of the Johns Hopkins Bulletin a report of two cases of our old friend epilepsy upon which operation was performed and a cystic degeneration found, and the author claims recovery, although he admits these cases have not gone long enough to be definite, neither is there a sufficient number of them to prove anything. But I would simply call attention to the fact that this forgotten slight injury may cause cystic

degeneration of an area of the brain that may be relieved by operation. That is only one of the many valuable things to which your attention has been called in this most excellent paper and of which you will no doubt take advantage in your discussion.

Dr. D. S. Fairchild, Clinton—There is one point I desire to say a few words on, and that is in regard to the decompression operation. In industrial work we have a great many varieties of head injuries to contend with. We have had patients who did not present any of the typical symptoms enumerated here, but just simply the question of unconsciousness, particularly in those cases where the weight of the body has been a factor in the influence of the injury. In these cases we may find no fracture of the skull perhaps, no evidence whatever of any displacement of bone, but the patient is profoundly unconscious. There is a degree of edema of the brain, and unless the circulation of the brain can be re-established promptly the patient will die. I refer particularly to the operation of decompression which should be considered in this class of cases. We have had quite a number of cases in which men have been thrown from trains in motion, falling on the soft ground, and they have exhibited very severe symptoms, unconsciousness. Many of these patients have gone on and died. We have in a series of cases undertaken to prove the value of the decompression operation. Of course, the results have not been altogether encouraging, but it is the best we can do. If there is an edematous condition of the brain, very soon the circulation of that organ will be seriously impaired, and we then do the decompression operation without any regard to focal symptoms, in fact there are no focal symptoms. Decompression will relieve a degree of pressure on the brain and in that way probably give the patient a chance to recover. Of course, spinal puncture is valuable in the same connection, simply because it relieves the pressure—it is a temporary thing which carries the patient over. And I rise to speak particularly of the early decompression operation, not only where we have been able to locate a fracture of the skull or lesion of the brain, but when there is a more or less profound unconsciousness with, perhaps a more or less severe laceration of brain substance. In regard to the after effects of brain injuries, many of these men we have, after several months, been obliged to discharge from the service because of mental impairment, oftentimes suffering from delusions of persecution. The entertaining of these delusions was of great importance because of danger to the public.

Dr. C. E. Dakin, Mason City—Dr. Pond spoke of the possibility of delayed pressure, delayed not only for a day or two, but perhaps for a week or two. I have in mind one case of accident in which there was immediate insensibility lasting for about twenty-four hours, following which all symptoms disappeared, the patient, an attorney, went on with his work and took care of cases in court for a couple of weeks, then there commenced to be increasing headaches

and at the end of about a week the stage which the essayist referred to, irritability and excitement with intense headaches, came on, with finally the sudden onset of coma. A decompression operation was done at this time, and we found an interesting thing which I do not exactly understand: A very small clot extradurally and not large enough to make any trouble to speak of, but just enough to show there was a hemorrhage. But on opening into the skull the veins of the diploe bled very freely and the hemorrhage was difficult to control, the veins internal to the skull being greatly dilated. It is possible that this measure might have given relief, but the relief obtained by the decompression operation was immediate. Dr. Fairchild spoke of unconsciousness coming on and the later development of mental symptoms. I remember hearing Dr. Murphy say that one of the worst things that could happen to a person was unconsciousness, from head injury even for a short time. I have seen quite a number of cases in which conditions of that kind have supervened, and have seen some in which skull surgery has been done without results. In one such case which I may report, it was not until about eight or nine weeks following the injury before decided mental symptoms came on, amounting to extreme pain and mania. We secured relief by doing decompression, in this case not involving a previous spinal puncture. We have found that diagnosis by means of the x-ray is much more readily made in these cases if the stereoscopic plate is used.

Dr. Geo. M. Crabb, Mason City—I was much interested in this paper because it reminds me of a case I had occasion to see last July. The history of the case was as follows: A traveling man, while on his way to the depot to take a train about 8 o'clock in the evening, stopped one block from the depot to watch a ball game and while standing between third and home bases was struck on the side of the head by a foul ball. He did not fall, but staggered and walked unaided the block to the depot and then took the train. He intended to go to a town about eighty miles distant, but while on the train he began to vomit and was "diagnosed" by the conductor as being drunk and was put off at a station with instructions to those who received him to send for the sheriff and take him to jail. A man who got off the same train saw him and decided he needed a friend more than a sheriff. He was taken to the hotel and I was called. I found this man, four and one-half hours after his injury, with a pulse of 40, his right pupil widely dilated and with a left-sided paralysis, but without any signs of external injury. Because of these findings it was apparent that this man had a cerebral hemorrhage on the right side. I realized that the condition was grave and that the only chance he had was through decompression to relieve intracranial pressure. We prepared him for operation and a trephine button was removed over the middle meningeal artery. As soon as this button was removed it was apparent that there was a blood

clot because the soft tissues bulged out. There was an extra-dural hemorrhage and the blood clot amounted to about 2½ or 3 ounces. The operation had been started without an anesthetic because of coma, but as soon as this blood clot was removed through the trephine opening, which was about three centimeters in diameter, the patient began to move, so an anesthetic was necessary in order to continue the operation. The middle meningeal artery had canalized the button that I removed first, so in removing the button the proximal end of the already torn meningeal artery was pulled off further down and I was unable to grasp it with a forcep to encircle it with a ligature, therefore it was necessary to pack this opening, pushing the packing well down along the auditory canal and underneath the brain, but all the time extradurally. The hemorrhage ceased, the packing was left in for thirty-six hours, and the patient made an uneventful recovery with the exception that he had a slight diplopia, but this, I have been told, has cleared up entirely. This illustrates how serious the brain damage may be from a comparatively simple injury. Last September I had the pleasure of listening to a paper read before the Washington State Medical Society by Dr. LeCount on the result of 500 autopsies that he had performed in Cook County Hospital upon cases in which he found definite brain injury. Most of these cases had gone to autopsy without any diagnosis whatever other than alcoholism or some other diagnosis that was incorrect, and in all these cases he found brain injury, some accompanied by skull fracture and some without.

Dr. Pond—I wish to thank the gentlemen who have participated in this discussion.

LUNG ABSCESS*

EDWARD W. MEIS, M.D., Sioux City

Non-tubercular abscesses of the lungs are not uncommon. In looking through the literature I find a large number of cases reported. In my thesis I wish to discuss only the abscess caused by pyogenic bacteria and not tubercular or any other specific infections. The clinical differences between early abscess formation, bronchiectasis, tubercular lesions, streptothrix are very difficult to describe. Gangrene of the lung is a common result of abscess, but typical cases are rarely seen outside the post-mortem room.

Suppuration of the lung is, as a rule secondary, but it may be primary. When I say primary I mean that we have cases on record where the suppuration cannot be traced to any other foci of infection. The rule is, that it is secondary to infection elsewhere and that the majority of cases

are infected through the bronchus. Infection may also be hematogenous, or by continuity of tissue. Pneumonia seems to be the most common cause, and to it one-third of all cases can be attributed. In another one-third it seems to be impossible to determine the exciting cause, and it is probable that a large number of the latter cases of primary abscesses of the lung had their origin of trouble in an unrecognized pneumonia. In a report made by the Massachusetts General Hospital fourteen out of fifty were attributed to it; Tuffier reports it in 23 per cent of his cases, and Lenhartz in 15 per cent. Foreign bodies are commonly the cause of abscess especially in children where they inhale kernels of corn or peanuts, sometimes of considerable size; food particles and tobacco inhaled by sudden paroxysm of laughter. In a series of twenty-five cases Clubs reports seven as being caused by foreign bodies; Gueriz reports five.

Suppuration elsewhere in the body like pyemia, cancer or ulceration along the respiratory tract, tonsils, abscess of the spine, or abdominal suppuration are mentioned as frequent causes; tonsillectomy has been mentioned very frequently the last few years as a potent cause. Wessler reports it in twenty-one cases following tonsillectomy out of twenty-six cases of abscess that had developed after operation. It has been mentioned frequently by Drs. Bassin, Manges, Bevan, Tewksbury, Hedbloom, and others. The opinion of the majority of these writers is, that the infection is either embolic or caused by inhalation of septic particles from the tonsils or blood clots. The complication is reported only after the patient has taken general anesthesia and not following local anesthetic. Extension from a neighboring infection like empyema, suppurative glands of the mediastinum, suppuration of the esophagus, and diaphragmatic abscess are uncommon causes.

Abscesses of the lungs may be very small or they may be so large as to involve almost the entire lung. When of minute size and multiple it is often difficult to diagnose, and undoubtedly very few are recognized, but the majority are evacuated and healed without further ill effects. In the large circumscribed abscess we have little difficulty in the diagnosis because the symptoms are usually very unique. Physical findings are not at all uniform. In those instances where the abscesses are secondary to lung complications there are already signs of pus, which will mask the symptoms. A pleural exudate will always obscure the signs. The history is always of importance because we can commonly trace this back to

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suppuration elsewhere. The most suggestive single symptom is the constant cough and the raising of large quantities of foul puss. The symptoms are mainly in the chest; the patient becomes cachectic, develops fever, and loses body weight. The physical signs are those of a large cavity, dullness, and diminished breathing. Many of these symptoms depend on the localization of the abscess, if it is in the periphery of the lung or not, the amount of surrounding pneumonitis, the amount of fluid content, the presence or absence of the obstruction of drainage, and the presence of fluid effusion. The x-ray furnishes the most reliable evidence, especially if we have a circumscribed abscess. In very early cases or in multiple abscesses it may be very difficult to get a diagnosis. We have no means at present even with the aid of the x-ray that gives evidence sufficiently strong to warrant a positive diagnosis, especially in cases where nothing localized can be found. We may find diminished breathing, dullness, rales, the patient may complain of stitch in the side, and fever, but none of these are sufficient evidence.

Tubercular cavities must always be differentiated. If in a large number of sputa examinations no tubercular bacilli are found we may be reasonably sure that tuberculosis does not exist.

Malignant diseases of the lung often simulate abscess by producing cough, expectoration, and physical signs, such as dullness, leucocytosis, and shadow with the x-ray. The use of the long aspirating needle in order to locate the abscess is discouraged by most diagnosticians. The needle can be used to good advantage only when the chest wall is opened and the surgeon is ready to open the abscess as soon as it is located.

During the past ten years I have studied sixteen cases of well defined lung abscess which came under my observation. Of these, seven were the direct result of croupous pneumonia, one of tonsillar suppuration, two of aspiration of kernels of corn, one of abdominal suppuration (pus appendicitis), and one in a woman who had suffered from general sepsis as the result of an abortion, three of unknown causes, and one of tonsillec-tomy. The three of unknown cause are of interest for the reason that nothing could be found in the history which placed the primary cause to any other foci of infection. Two of these men were chronic syphilitics. All developed large circumscribed abscesses in the lungs, and one recovered after evacuating large quantities of pus through the bronchus. The other two died.

In one of my cases that developed directly after an operation for the removal of a particle of an

infected tonsil I wish to report here in detail:

Miss R., aged nine years, was brought to me for examination in March, 1918. In September, 1917, she underwent an operation for tonsillec-tomy under ether anesthesia. She made a satisfactory recovery, but a small particle of tonsillar tissue had remained, and subsequently became infected. This was removed a month later by the same operator, again under ether anesthesia. The day following this operation she developed fever, rapid pulse, complained of a sharp stitch in her side, and a cough, dry and painful. A few days later she began to expectorate in large quantities which continued periodically. The patient became a little worse from day to day, so in March, 1918, she was brought to me for examination, five months after she had been operated upon the second time.

Upon physical examination I found the following:

A young girl nine years old, quite tall for her age, emaciated, very weak, and with her right shoulder drooped. She had lost about one-fourth of her body weight and giving a history of expectorating large quantities of foul sputa. She had a very large circumscribed abscess involving the middle lobe of her right lung. A series of sputa examinations proved that no tubercular bacilli were present. Staphilococci and pneumococci were the predominating bacteria found. Shreds of lung tissue were present in the majority of the examinations.

Blood examination: three white cell counts, 16,000, 12,000, and 24,000, with a leucocytosis of 74 per cent, 76 per cent, and 84 per cent; red cells ranged from 3,200,000, 2,060,000, to 2,600,000. The temperature, which was sub-normal at times, reached at one time 105.5.

I advised operation which was refused by the parents, therefore I kept her on expectorant treatment, with tonics, fresh air and sunlight. During the next few months there were times when she was in fairly good condition, played with the neighboring children, and seemed to be very cheerful. In the latter part of July her condition was good enough that I allowed her to take a trip to a relative, one hundred miles away, and while there she became very ill, and was brought back immediately. Expectorating had almost ceased, abscess became very large, the temperature was 105.5, cell count was 26,000 with 86 per cent leucocytosis. I again advised them to take her to Dr. Carl Hedbloom of Rochester for consultation and treatment, which was done. On the third day of August, 1918, he operated on her and drained a large pulmonary abscess. The pa-

tient made a remarkable recovery and suppuration diminished gradually. She became strong and healthy, ceased to expectorate, and run a normal temperature. The drainage had almost ceased when on December 1, 1918 she developed influenza complicated with pneumonia from which she died a few days later.

We have here a typical history of a tonsillar infection causing lung abscess. Following her second operation in October, 1917, the symptoms started almost immediately. The history of this patient is that prior to her first operation she had never been sick, did not have suppuration in any part of her body, did not even give a good history of ever having had tonsillitis. The operator was a general practitioner and the work was rather crude, so when he performed the second operation he removed a particle which had become infected. When he began fingering and swabbing in the infected area he stirred up some emboli which became lodged in the child's lung. As a rule too much of this is done when the tonsils are removed. There is no good reason why the operator should manipulate and poke his fingers into the sight where the operation is being performed, unnecessarily. We promise our patients entirely too much when we ask them to have their tonsils removed and say nothing about some of the dangers.

The prognosis of lung abscess depends entirely upon the location, size and whether it is multiple or single. In multiple abscess the prognosis is naturally bad because the cause of the multiple abscess is bad. In single abscess the prognosis is much better. The treatment is purely surgical. If a positive diagnosis has been made there is no good reason why any internal medical man should not take in consideration the possibility of a complete cure by surgical drainage. The x-ray, of course gives us the greatest amount of information, but to have too great confidence in the x-ray is as great a mistake as not to use it at all. Our patient must be picked for the operation at the right time. All indications must be carefully considered, and we must remember that statistics show that of the cases treated medically less than 10 per cent recover, while with those treated surgically, 65 per cent recover.

Dr. Tewksbury of Washington, has done a great deal of work in the line of pneumothorax and reports out of a series of fourteen cases, eleven cures and three deaths. These cases were all acute abscesses. In chronic abscesses it is impossible with the amount of adhesions present to collapse any lung and evacuate the pus.

In conclusion I wish to state that when a patient

has been diagnosed suffering from pulmonary abscess that he then and there becomes a surgical case, and the quicker we so inform him the better we do for our patient.

Discussion

Dr. Daniel J. Glomset, Des Moines—In the army I had opportunity to see a large number of lung abscesses caused by different things. Lung abscesses were rather common in connection with our flupneumonias, they were common in connection with gunshot wounds of the thorax. In the 800-odd autopsies which I did, I saw all types of lung abscesses varying from large ones including almost the entire lobe, to numerous small miliary abscesses of the lung. But I wish to report here two cases of lung abscess with a rather unusual etiology. One case which I saw in Prague in 1914 was that of a young man who shot himself in the chest. The bullet passed through his sternum, entered the heart, punctured the right ventricle, passed through the septum and cut off one of the aortic valves, then lodged in the lung parenchyma. The man lived for nearly a year and then died. An autopsy was done at the German Anatomical Institute in Prague. There was found a large abscess at the point where the bullet lodged, and numerous smaller ones were located in the lung tissue. The second case was that of a man who was shot in the liver. The bullet was located by the x-ray, the surgeon put a forcep on it and was just going to take it out when the bullet slipped and disappeared. The patient was rushed to the x-ray room and the picture showed that the bullet had entered the right ventricle. It stayed in the right ventricle for a number of days, and then all of a sudden the man had an attack of acute lung symptoms. We then took another x-ray and the bullet was found lodged in the lower lobe of the right lung. He lived long enough so that the pus and the infarct which it produced became localized and well walled off, and then he was "kind enough" to die. The specimen as found is now in the Army Medical Museum, and there is a drawing of it which is also in the Army Medical Museum.

Dr. Robert Q. Rowse, Sioux City—I think we are indebted to Dr. Meis for bringing up this important subject and for the very thorough exposition made in so short a time. He has taken up the etiology and classified it thoroughly. The first thing that interests us as physicians and surgeons is the diagnosis, the first thing that interests our patient is the treatment. One, of course, depends upon the other. In the diagnosis of lung abscess the most important thing is its location from the standpoint of treatment. An abscess near the periphery is easy of management. In the localization of an abscess the most dependable means of diagnosis is the x-ray. In regard to treatment, I think we can classify our cases according to the time when they are seen as to whether they are acute, sub-acute or chronic. In the acute cases, the type we have seen so much following the flu, there is not a great deal to be done until the

condition becomes sub-acute. When these cases become sub-acute, I think one of the most feasible methods of treatment is the production of pneumothorax. We have had very satisfactory results from the induction of pneumothorax. Those who have not tried this method should do so. I want to call your attention to just one point in this connection: Perhaps you have noticed in the cases presumed to be empyema that immediately after they have been explored, though you did not think you had done anything, the temperature dropped and the condition improved. You induced a pneumothorax.

Dr. Vernon L. Treynor, Council Bluffs—It seems to me that in the consideration of lung abscess the etiological factor is a matter of first importance. There isn't any question but that, following the enormous number of influenza cases occurring in the last two years, we have had a larger proportionate number of lung abscesses following pneumonia than formerly obtained. At the Massachusetts General Hospital, in the collection of statistics from over 1200 post-mortems following pneumonia, sixty-seven cases were found to have developed lung abscess. Therefore lung abscess is relatively important as a complication of ordinary pneumonia. I have an idea that if a similar line of investigation were made today the relative number of cases would be very much greater. In the consideration of lung abscess I believe that one source of error lies in our almost invariably visualizing a large, distinctly outlined cavity, whereas the abscesses which most frequently occur following infectious conditions are of the disseminated type. Occasionally a case of pneumonia pursues a typical course, but does not terminate in the usual manner. Some condition is present that is out of the ordinary. It is not possible always to make a definite diagnosis of small multiple disseminated abscesses, and I think in this instance the x-ray is of particular value as a diagnostic aid because by means of it we are able to see in the area involved a little mottling, which is almost pathognomonic of abscess. In this type of abscess operative interference is not justifiable. Nor do I believe that in the large early abscess operative interference is indicated. We have all seen abscesses that have drained spontaneously and healed, and in the average case I think the patient's chances are better without surgical intervention unless the service of a surgeon specially adept in lung surgery is available. As to abscesses following tonsillectomy, I doubt very much whether many of these are true aspiration abscesses. In almost every instance they probably represent an embolic condition, and I do not believe the man who does the tonsillectomy should be held responsible unless he has performed the operation during an active infection of the tonsil, which is very likely to induce trouble of this character.

Dr. Meis—I wish to thank the doctors who have discussed my paper. In regard to what Dr. Rowse has said, I do not believe that pneumothorax is of any value in an old abscess if circumscribed and there

are a large number of adhesions, but in the early cases some very good results of pneumothorax are reported in the literature. The trouble has been with most lung abscesses that they have been treated too long medically, and when you see them as a rule the patients are almost moribund. In the medical statistics the mortality is certainly so great, and in the surgical so low, that it is always a good idea to try surgery. According to the literature there are 65 per cent of cures under surgical treatment and less than 10 per cent under medical treatment.

ACUTE INFECTIONS OF THE NASAL SINUSES: REFERENCE TO TREATMENT*

T. R. GITTINS, M.D., Sioux City

In choosing this subject, the idea of the writer has not been to present any new methods of treatment, nor to claim anything original in the text as presented, but rather it is in the hope of stimulating a helpful discussion of a practical everyday problem. It is certainly a well-known fact, be it in medical work or any other profession or calling, that the tendency is to look for the rare thing and make much of it, while the conditions met with every day become too familiar to stimulate lively interest. We might say that the familiarity of such a universal disease as this under discussion breeds, if not contempt, at least a feeling of the common. The very fact that sinus disease with its long drawn out convalescence and its frequent discouraging results is constantly with us, should lead us to give it more serious consideration. And here it is well for us to remember that by intelligent and conscientious handling of the acute processes, we may prevent or certainly modify greatly the serious chronic conditions to follow.

Before considering any sinus specifically, I wish to emphasize a point, well known to be sure, and needing emphasis for that very reason, that every coryza from whatever cause is a potential sinus case. During an epidemic such as that experienced the past two winters, the more serious complications of influenza have attracted the attention of medical men and it was well that they did. But it is during these epidemics of respiratory disease that future sinus cases are recruited in great numbers. How many of the so-called influenza cases of the respiratory type did not have at one time or another definite symptoms of acute sinus involvement? And what a great propor-

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tion of these patients could have been made more comfortable during their illness and could have been protected from future sinus symptoms and complications, largely, if intelligent treatment had been resorted to early?

A year ago I had the privilege of caring for the nose and throat cases in a 1500 bed hospital attached to the army of occupation in Germany. There, in our wards for respiratory diseases the great majority of sinus complaints were frontal in nature,—one-sided headaches, aggravated by stooping forward, acute tenderness over the floor of the frontal, photophobia, and pain on movement of the eyes. In a series of 175 cases with the so-called classical symptoms of acute frontal sinus involvement, the treatment followed was absolute rest in bed with application of cocaine and adrenalin to the middle turbinate. The patients were either propped up in bed or instructed to lie on the side with the face down with the hope that the drainage would be better. Improvement was rapid and not one of this series of cases was subjected to any operative interference.

I feel that suction would have been a great help to us in many of these cases, but it was not practicable. However, I do feel that numbers of the early congestive or inflammatory types are made worse by the use of suction. We conceive of these cases as having an oedematous inflamed mucosa with as yet very little secretion, if any, therefore to create a negative pressure will tend to aggravate the already acutely inflamed membranes. There is no doubt that many patients experience great relief following suction, but one wonders whether this is due to the removal of the secretions, or rather to the effect of the cocaine and adrenalin applied previous to the treatment. Where there is really purulent secretion present and suction is to be used, it seems that the Coffin method, using a soft rubber catheter high up in the region of the middle meatus, is the logical form of treatment.

Acute antrum disease was rare in proportion to involvement of the frontal, but one fact that impressed us was the comparative frequency of the classical frontal symptoms and absence of those associated with antrum infection, in cases where exploratory antrum irrigation revealed pus and a subsidence of the frontal symptoms resulted. With these cases in mind we made it a practice in our frontal cases where the symptoms persisted in spite of treatment for two or three days, to irrigate the antrum and were surprised to find how frequently pus was found and the symptoms cleared up. The number of patients to be examined in a limited time made it impossible to

resort to transillumination and x-ray, but this very bulk of material made our findings more impressive to us than more carefully compiled statistics of fewer cases ever could have been. With this evidence before us it makes us wonder how many naso-frontal ducts are enlarged to alleviate symptoms entirely dependent upon antrum infection. And here it may be well to ask if any of us are using the diagnostic puncture as frequently as we should? Or do we in our private practices allow a nervous patient's arguments to influence our better judgment? Is it not reasonable to assume that many acute suppurative antra could have been prevented by irrigation early in the congestive stage when the infecting organisms were fighting for a chance? Certainly we all see antrum cases clear up after one or several irrigations, even when diagnostic puncture revealed a considerable amount of mucopurulent discharge. And here again I would like to make reference to our experience with the men in the army. It was a pleasant surprise to find how many of the antra from which great quantities of thick pus were irrigated would clear up after one, two or three washings with boric solution. But it must be remembered that at this time we were dealing with young healthy men whose resistance to disease was vouched for by the fact that they were with the army of occupation after experiencing the constant exposure of pre-armistice days. We certainly cannot expect to compare statistics from such a group of patients with those compiled in an ordinary private practice, but we can be helped to discriminate and use less radical procedures in a great many of our cases until more conservative measures have failed.

Where possible we are cooperating with the dentists in the treatment of the antra exposed to the mouth cavity following extraction of teeth. In cases where a sinus is found leading from the tooth socket into the antrum, we advise immediate irrigation of the antrum by puncture in the inferior meatus, and if possible this procedure is repeated each day or every other day, hoping in this way to prevent or at least modify the disagreeable infections which so commonly follow in these tooth antra. Our advice to the dentists is to leave the sinus from the tooth socket absolutely alone, refraining from even exploratory probing. At present we have a small series of cases with very good results where this method of treatment has been followed out. When pus is demonstrated, we, of course advise more radical drainage.

In the army hospitals where this method of treatment—that is, repeated irrigations—was fol-

lowed, various solutions were used and each had its firm advocates. Dichloramin-T, Dakin's solution, alcohol and argyrol were the common ones and many good results were reported. I have used Dichloramin-T in quite a series of cases but as yet have nothing to report which proves it to be any more efficient than ordinary boric solution. It seems likely that the removal of the infected materials is more important than the application of any germicide, just as we find drainage of pus anywhere is the reasonable treatment.

In a brief mention of the operative treatment of frontal and antrum cases, I do not wish to discuss the merits of any certain type of operation or the relative merits of the various operative procedures, but rather to urge a conservative attitude toward turbinate tissue, especially in the antrum cases. So often where the antro-meatal operation is done, the prime object seems to be speed. There is a peculiar recklessness with which the turbinate tissue is removed and an opening torn into the inner wall of the antrum. Certainly the snare should come in for its share of blame. It is so easy to remove a portion of turbinate with this instrument without realizing until too late how much has been sacrificed. Do we realize that in this rapid process we are removing the very structure which has the big part to play in preventing a dry crusted nose later in the course of the sinus disease? The picture during the congestion of the acute sinusitis will be greatly changed later when the swelling is gone and there is no anterior bulbous portion of inferior turbinate to warm and moisten the inspired air. Is it not better surgery to carefully bite away a small portion of turbinate just enough to allow of an opening into the antrum and save the snare for the middle turbinate, the removal of which gives no such unpleasant sequelæ? And certainly in many cases good drainage may be obtained without sacrificing any turbinate tissue.

Where operative methods are under discussion and results are tabulated, there is always a certain percentage of poor results, even where the diagnosis has been carefully worked out and the operative procedure has been carried out with great care. Four years ago, I spent considerable time studying the anomalies of the paranasal sinuses in the collection so completely and carefully worked out by Dr. Prentiss of Iowa, and was greatly impressed with the frequency and extent of these variations. Where the operation of one's choice is done carefully and symptoms are not relieved it seems very reasonable to suspect, at least, that perhaps through some anomaly, isolated cells are still untouched. After studying

these specimens dissected by Dr. Prentiss, one is impressed with the difficulties of attempting to properly locate and drain these peculiar outpushings. The x-ray, especially with stereoscopic examination, is a great help and with the ingenious method used by Dr. Sluder of making plates with metal probes inserted into the sinus should throw light on many obscure cases. This is especially true in the sphenoid region as brought out by this writer. He has opened into what was apparently the sphenoidal sinus in a number of instances, but after making a plate with a metal probe in the sinus was surprised to find that the entire sphenoidal cavity was posterior and unopened. After examining specimens showing extensions of the sphenoid into the lesser wings, greater wings and pterygoid processes; then of one sphenoid cavity taking the space of both; frontal cells extending into the orbital plate of the frontal bone and upward into the crista galli; frontals with one sinus occupying the space of both and only a blind naso-frontal duct on the one side; multiple cells making up an antrum; continuations of ethmoidal cells into the middle turbinates; and many other curious variations; one must appreciate how many of these anomalies must escape the most careful diagnostician and if diagnosed will more than tax his skill to properly drain them. Especially striking was the frequency with which outpushings from the frontal sinus extended into the orbital plate of the frontal with from two to four separate pouches. Obviously attempted drainage of these cells, as well as many of the sphenoid outpushings, if not impossible, is certainly impractical.

I do feel that some of the poor results following careful sinus operations can be credited to these variations and it behooves us all to give them careful consideration whenever we examine x-ray plates preliminary to operation or later when we cannot account for a continuance of symptoms. Anyone interested in these anomalies will find it well worth their while to go over with Dr. Prentiss his very complete and interesting group of specimens.

The diagnosis of acute sphenoiditis is rarely made in comparison to the number of frontal and antrum diagnoses. Is this fact due to the rarity of the sphenoid condition or is it rather due to the lack of proper investigation? The very fact that the symptoms of sphenoid suppuration are so varied and appear as referred pains in various parts of the head far distant from any of the sinuses, may explain the infrequency of this diagnosis in any sinus statistics. There is so frequently no part of the classical sinus picture pres-

ent; no pain in face of frontal region; no complaint of a "cold in the head;" and examination may show so little evidence that hurried inspections may very easily rule out such a case as sinus in nature. Certainly, we all see these cases sent in as middle ear or mastoid involvements, especially the latter, because of the common complaint of pain behind the ear. There is no complaint of discharge from the nose or back into the throat, no obstruction of breathing, and examination often reveals a very normal looking nose. Here, in this connection, I would like to endorse the use of Holmes nasopharyngoscope. I'll admit that I never have been able to see much with this instrument but I know it is because I have not used it with enough patience to become accustomed to the appearance of the various structures. I feel that we cannot hope to properly examine or understand conditions in the post-ethmoidal and sphenoidal regions without becoming proficient in the use of it. I am sure that Dr. Dean of Iowa City has found it of inestimable value in his work on sinus diseases in children. Even where the sphenoid is filled with purulent secretion there may be no evidence of this discharge on the posterior wall of the pharynx as we examine with the pharyngeal mirror because the movements of the soft palate, set up by this very examination may have wiped the pharynx clean. I think that it is fair to say that we quite rarely find real purulent secretion coming from the sphenoid and may find nothing to convince us when we break down the anterior wall of the sinus. Yet these cases have presented symptoms which we felt were surely sphenoidal in origin, especially the referred ear and mastoid pains. Three possibilities yet remain in such cases. Are we dealing with a spheno-palatine neurosis; are the symptoms due to the congestive process in the lining of the sinus producing inflammatory areas in the thin bone covering the superior maxillary division of the Vth or the Vidian in the floor; or are the anomalies previously mentioned responsible? We must bear in mind in this connection the point emphasized by Dr. Sluder that the sphenoid is by far the most intimately associated with the large nerve trunks of any of the sinuses. He has shown that in some cases the Vidian nerve even lies exposed in the floor of the sphenoid. In these non-purulent cases he reports many very satisfactory results by irrigation of the sinus through its ostium with analgesic solutions, while in a number of instances simple irrigation of the posterior ethmoidal and sphenoidal region without entrance into the sinus itself has given relief, temporarily to be sure in many cases,

but this is often all that is necessary in the early congestive types. In the light of his results we are certainly justified in trying irrigations of the nose and the introduction of the analgesics directly into the sphenoidal cavities before any operative work is resorted to. I believe that many injections of the spheno-palatine ganglion are done with poor results when the real trouble could have been relieved simply by irrigating the sphenoid. And certainly in a great proportion of our cases it is not very difficult to enter the sphenoidal ostium after the middle turbinate has been constricted with cocaine and adrenalin or if necessary fractured laterally. My point is then, are we not justified in treating cases with symptoms of acute sphenoidal involvement very conservatively, at first eliminating if possible, these congestive or inflammatory types involving only the lining of the cavity and those of ganglion origin before operative work is advised? What can be gained by the usual sacrifice of the middle turbinate tissue with a breaking down of the anterior wall and a portion of the floor of the sphenoidal sinus in a process that is not purulent and probably was not destined to ever be such?

Since I have just touched on the subject of referred pains, I would like to bring into the discussion the possibility of confusion of the pressure pain caused by the pressure of congested turbinates on the septum with those of real sinus disease. Are we sure that many of the so-called vacuum frontal cases are not relieved by the removal of the portion of the middle turbinate which pressed on the septum rather than by the opening of the naso-frontal duct itself? And posteriorly we find many of the so-called sphenoidal pains relieved by application of cocaine and adrenalin to the congested middle turbinate thereby relieving the pressure. The very fact that these pains are only relieved temporarily, and return in a few hours when the effect of the astringent has worn off, should indicate a submucous resection or partial turbinectomy rather than any sinus curetment. Perhaps many of the cases of frontal pain and tenderness are of the vacuum type, but who can tell? What evidence have we except that no pus is found and the symptoms are relieved? The latter being the important feature, it makes no difference whether the case were one of negative pressure within the sinus or active pressure of congested middle turbinate on septum. A thought has come to me here, as it has undoubtedly to others of you; do we not also have vacuum antrum cases? Certainly it is not so rare to find antra where it is impossible to get any return flow following exploratory puncture.

Here the normal ostium must be tightly sealed giving the same opportunity for a negative pressure, that we have in the frontal cases. At any rate an antro-meatal opening is indicated, no matter what the underlying cause of the symptoms may be.

In the foregoing remarks it has been my purpose to consider the treatment of adult patients. The great frequency and importance of sinus disease in children has been brought forcibly to our attention by Dr. Dean of Iowa City during the past two years, and his work has certainly opened the way for great advances in the diagnosis and treatment of these conditions in early life. Granting that we diligently investigate the children that come under our care, we have the privilege of freeing great numbers of these little patients from the menace of the future chronic sinus diseases with its complications. Naturally, in a great percentage of these cases, removal of the tonsils and adenoids is sufficient to clear up the sinus involvement, but this very fact may tend to throw us off our guard and allow us to take too much for granted. It is the minority of cases which do not clear up after the removal of tonsils and adenoids that need attention, and close attention, that they may be recognized and picked out from the majority before disastrous complications appear. Dr. Dean's records show especially remarkable results among the arthritis cases in the orthopedic wards at Iowa City, those cases which have responded so stubbornly to all other methods of treatment. In this connection the isolation of the streptococcus hemolyticus from the sinuses, especially antra with development of localized lesions in a guinea pig after inoculation has been very dramatically demonstrated by Dr. Armstrong working in Dr. Dean's clinic. As to the proper treatment of these sinus diseases in infants, we are looking forward to the detailed report which I think will soon be forthcoming. At present, drainage as in adult cases, followed by the Coffin method of suction with a small catheter introduced well up in the nose seems to be preferred.

As a closing thought allow me to urge again that we give serious consideration to the treatment of acute sinus conditions. In the Middle West, where we are constantly confronted with this almost universal affection, where everyday in our practices we see the early simple cases and the old chronic purulent ones, let us be properly impressed by these latter types, so discouraging alike to patient and doctor, that we give our best efforts to the examination and treatment of the early processes, thereby doing our bit in the pre-

vention of a goodly part of the morbidity of our patients.

Discussion

Dr. Frederick L. Wahrer, Fort Madison—1. The cause of acute sinusitis is essentially mechanical. The rare occurrence of acute sinusitis in negroes is a well known fact, and is due to the adequate drainage furnished by the large, wide nasal passage present in the negro. 2. Extent of shrinkage following adrenalin determines whether treatment is to be operative. If adequate drainage can be secured by shrinking the turbinate-negative pressure will give prompt relief. The large majority of cases can be relieved in this way. Occasionally it is necessary to remove all or part of a middle turbinate in order to secure drainage. At this stage of the disease, further operative measures do not meet with my approval. Operation on the sinus itself, for drainage in acute sinus disease are rarely, if ever indicated. Dr. Gittins' experience regarding the large number of sinus cases treated by shrinkage and postural drainage, and the rapid resulting cure, tends to show the truth of this statement. I am glad to hear what Dr. Gittins has to say regarding the value of early antrum puncture, not only from a standpoint of diagnosis, but for treatment purposes. Washing the antrum with boric acid solution, following by argyrol, will clear up 95 per cent of the acute antrum infections. This of course should be supplemented with shrinkage and suction. At this point I wish to say that I am firmly opposed to destruction of inferior turbinate tissue. Too often one-third or one-half of the inferior turbinate is needlessly sacrificed—resulting in more harm than good. Occasionally a small amount of inferior turbinate showing polypoid degeneration, should be removed. Hypertrophy of the inferior turbinate is a secondary affair, and with a correction of the causative factor the turbinate will return to normal. Acute sinus disease is simply a matter of cause and effect. Experience and common sense tells me it is poor surgery to eradicate the effect and leave the cause. Following the relief of the acute symptoms by temporary treatment, the mechanical blockage of drainage should be permanently relieved by such operative measures as may be necessary. This will consist of a submucous resection, either with or without a middle turbinectomy. I have never found it necessary in acute sinus disease to supplement the removal of nasal obstruction with surgical drainage of the sinus. Too often one finds patients who have had sinus operation with the sinuses still draining pus months after, and upon examination find a nose with a badly deflected septum. Certainly such surgeons are optimist if they expect permanent results under such conditions. Take care of the septum and the middle turbinates and the sinuses will take care of themselves, with the exception perhaps of the sphenoid and ethmoids which it is necessary sometimes to curette, following an unusually virulent infection. The use of the x-ray in connection with the diagnosis

of sinus infection is always imperative. Clinical symptoms are many times misleading. Dr. Gittins' experience with diseased antra simulating frontal sinusitis parallels my own findings. In many instances diseased antra do not give characteristic clinical signs, especially when associated with infections of the frontals. For this reason, the antra should be included in all x-rays of the frontal and ethmoids. This also holds true of the sphenoid cells, which I believe are infected in many cases where sphenoid disease is not suspected. Also in cases where operation of the sinus may be necessary, an x-ray picture is essential as the abnormality of these cells is well known, and it is like working in the dark unless the extent and variations of the sinus is clearly in mind.

count of an obstruction at about two inches above the cardiac opening. Bright red blood was visible on the tube and brown blood aspirated from the stomach. The white blood cell count, numbered twelve thousand five hundred.

DIFFERENTIAL DIAGNOSIS OF ESOPHAGEAL STENOSIS*

(Four cases reported)

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While a resident physician in the Allegheny General Hospital, Pittsburg, Pennsylvania, in 1910, I was present at an autopsy performed by Dr. Frederick Proescher, then director of the pathological service, upon a woman about forty-five years of age who had died from starvation. Her esophagus was enormously dilated, no other lesion was revealed. This case was undoubtedly one of cardiospasm, and from the remarks made by those present I took it that the autopsy was a revelation. It was a year or so later that Dr. H. S. Plummer of Rochester, Minnesota, published his first contribution on cardiospasm and in July, 1912 I saw presented by him, at his clinic, a typical case of this disorder with x-ray findings, in a female about forty years of age, who was improving under treatment. In April, 1917, I had my first recognized opportunity to diagnose a case of esophageal stenosis, which is as follows:

Case No. 1

Esophageal Stenosis Secondary to Malignancy (?)

Record No. 1166; male, age sixty-two, referred by Dr. W. G. Rowley through the courtesy of Dr. Frank Lytze, Sioux City, Iowa, April 5, 1917, for x-ray examination. The patient noticed that he "could not eat an apple in November, 1916. This difficulty in swallowing had been gradually getting worse." The patient had lost forty pounds in four months. Dr. Rowley stated "stomach tube passed this morning but a little later was unable to pass the same on ac-



FIGURE 1. Case No. 1. Prone position; time thirty minutes after ingestion of barium sulphate and buttermilk meal. A. Esophageal shadow. B. Constriction at cardiac orifice.

X-ray examination revealed a dilated esophagus with canalization between the esophagus and stomach. A diagnosis of cancer of the cardiac end of the stomach was made. I regret to state that subsequent data on this man, other than, "he died two or three months later" is unavailable.

The next case I encountered three months later and is worthy of report for the fact that a mistake in the diagnosis was made.

Case No. 2

Esophageal Stenosis Due to Cardiospasm

Record No. 1305; male, age fifty-four, weight one hundred and seventy-four and one-fourth pounds, referred by Dr. B. C. Stewart of Ute, Iowa, July 7, 1917, complained of "difficult swallowing and loss of thirty-seven pounds in weight." It had been six months since he had first noted trouble, which had been gradually getting worse.

Fluoroscopic Examination; the barium and buttermilk meal totaling twenty ounces was given; a fair portion of the first ten ounces entered the stomach, the remainder remained in the esophagus, this taken by anterior-posterior view, the other ten ounces taken with patient in lateral position, and a sausage-shaped tumor, smooth in outline, two inches in diameter and eight inches in length with a constriction at the cardio-esophageal junction was clearly seen. Plates made for record. Wassermann negative.

Conclusion; esophageal stenosis due to stricture, with canal one and one-half inches long just above the stomach due to malignancy. Advised to wait until stricture closed and then to have a gastrostomy performed.

Two years later Dr. Stewart wrote as follows: "On December 4, 1917, following the examination by you the patient lost fifteen pounds in three weeks

*Delivered by invitation at the Mid-Summer Meeting of the Austin Flint-Cedar Valley Medical Society, held at Clear Lake, Iowa, July 13, 14 and 15, 1920.

and gave a history of hematemesis on two occasions during this time, the second time claiming that one-half quart of blood was lost in which there were a number of fleshy particles. This history, the result of your examination and the fact that the man was actually cachectic, had low hemoglobin with rapid loss of weight led me to make a positive diagnosis of cancer of the esophagus. Early in September the pa-

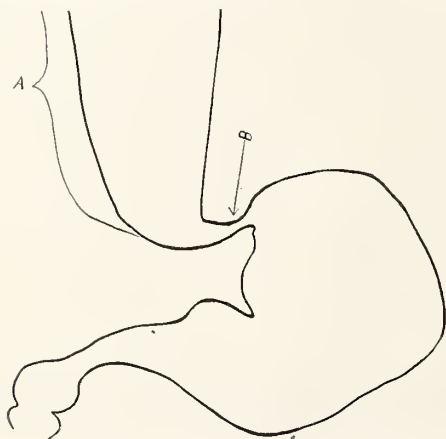


FIGURE 2. Case No. 2. Prone position; time thirty minutes after ingestion of opaque meal. A. Esophagus greatly dilated. B. Cardiac orifice.

tient went to Rochester and after esophagoscopy by Dr. Plummer the case was pronounced one of cardiospasm. Dilatation was effected by pneumatic method. Three months after he had gained forty-eight pounds and was in perfect health. I saw this man December 1, 1919 and he weighs just 100 pounds more than his lowest weight during his illness, is hale and hearty and has not had the slightest return of the symptoms of stricture."

This case report speaks for itself. If esophagoscopy had been performed, following the x-ray examination perhaps a mistake in diagnosis might not have occurred.

Regarding the diagnosis of cardiospasm I wish to quote from the article "Cardiospasm from the Medical Viewpoint" by Dr. Edward A. Aronson, New York Medical Journal, April 10, 1920: "The diagnosis of the acute form is often made by the introduction of an esophageal bougie with difficulty, there being less resistance from a large bougie than from a small one; the absence of the second deglutition murmur, and the inability of the patient to vomit. In the chronic form the dysphagia lasts a longer time and there are symptoms referable to the dilated esophagus. Upon introduction of the bougie a condition similar to that in the acute form is found. The best diagnostic method, however, is by means of the x-ray. The esophagoscope is also often used for diagnosis."

Rosenheim, at whose clinic he had the opportunity of seeing a few patients esophagoscoped, described what he termed a characteristic picture:

"Sharply rising folds of mucous membrane, which converge toward a point in the middle of the lumen and form a rosette-like, more or less rigid closure; the lumen, if it can be recognized at all, is narrow. The mucous membrane of the contracted portion of the esophagus shows abnormal intense reddening."

Case N. 3

Esophageal Stenosis Due to New Tissue Formation (Syphilis?)

Record No. 1333; a married female, age twenty-two, weight one hundred and thirteen pounds, referred by Dr. W. G. Rowley, Sioux City, Iowa, July 24, 1917, complained of "difficult swallowing." She gave the history of swallowing lye by mistake three months prior at which time her weight was one hundred and forty-two pounds.

Fluoroscopic Examination showed a definite stricture at junction of upper and middle third of the esophagus and a diagnosis of esophageal stricture secondary to scar formation, following the ulceration, caused by the swallowing of lye, was made.

Here we will quote from the history card of Dr. Rowley: "Referred by Dr. H. Brown, June 21, 1917. Family history negative as far as is known. Smokes cigarettes and drinks excessively. July 24 date of fluoroscopic examination (see above), could swallow no solids, could swallow water with difficulty, unable to introduce stomach tube. The tip of a number two French esophageal bougie engaged but did not pass

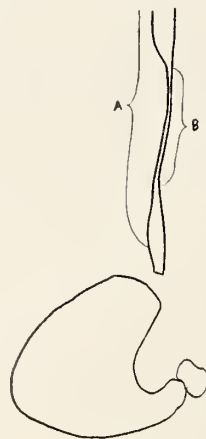


FIGURE 3. Case No. 3. Position lateral; time immediately after ingestion of opaque meal. A. Esophageal shadow. B. Area of constriction, quill size.

an obstruction thirteen inches from the incisors. This partial 'sounding' gave some relief and was continued at frequent intervals until December 26, 1917 when on account of headaches and menorrhagia a Wassermann was done on the blood and found four plus positive. She received weekly injections of salvarsan for four weeks and following had weekly intramuscular injections of one-fourth grain Hg₂CL₂ for twelve weeks. After beginning anti-syphilitic treatment progress was marked and she gained twenty pounds, swallowed food easily and was in very good

condition, but could never pass number two French esophageal bougie through the esophageal stricture. She always denied any knowledge of syphilis; however a brother-in-law living with them during the time that she was sick was in the second stage of syphilis and was not receiving treatment enough to keep free from mucous patches. Last seen November 4, 1918."

The lesson that we gained in this case was that although history is of vast importance, undoubtedly this lady was lying when she said that she drank lye, and that a routine Wassermann test is a great adjunct in diagnostic medicine. However it is reasonable to conclude that she was suffering from an esophageal stricture hyperplastic in nature.

Since returning from military service February, 1919, I have seen but one other case of esophageal stenosis.

Case No. 4

Esophageal Stenosis Secondary to Malignant Neoplasm

Record No. 2058; Mrs. A. R. B., referred by Dr. W. G. Rowley, March 1, 1920, complained of "loss of weight and difficult swallowing, for three months liquids swallowed with difficulty." The latter was easily demonstrated to be true when the barium-meal was swallowed during fluoroscopy, for a dilatation of the lower half of the esophagus one and three-quarter



FIGURE 4. Case No. 4. Prone position; time fifteen minutes after ingestion of opaque meal. A. Barium filled and dilated esophagus. B. Constriction, below which appears "filling defect" of cardiac end of stomach. (Operative Diagnosis, Carcinoma of fundus of stomach.)

inches in diameter, showed easily, with a quill-size passage about two inches in length, joining the esophagus with the stomach. The cardiac end of the stomach was rough in outline. Wassermann was negative. Number two French sound passed with some resistance and no bleeding, by Dr. Rowley. Presumably the diagnosis is one of cardiospasm or malignancy. Endoscopic examination not permitted.

She was operated upon March 7, 1920 by Dr. W. J. Cremin who found as follows: "Carcinoma of esophagus and cardiac end of stomach extending to the liver. Gastrostomy was performed and two hour feedings of two ounces peptonized milk with two drops of diluted hydrochloric acid instituted. She gained weight and returned to her home. She died July 2, 1920. The last few weeks of her life she was greatly distended (ascites), had a growing mass, palpable in right upper abdomen (liver?); and her stools were undigested."

In closing I wish to advocate: 1. A careful history and a thorough physical examination.

2. A fluoroscopic and roentgenoscopic examination to observe any abnormalities in the function or outline of the esophagus.

3. Esophagoscopy, which was omitted in all the cases just cited.

4. A Wassermann reaction (see Case No. 3).

Cases number one, two and three previously reported at the North West Nebraska Medical meeting, March 16, 1920, but not published.

Frances Building.

AMERICAN MEDICINE*

A. O. WILLIAMS, A.M., M.D., Ottumwa

Fellow American Medical Association

Our great republic is as yet in its infancy and for the past century and a half she has been hewing her way through the forests and over the mountains, building solid foundations for great superstructures, of culture, refinement, and intellectual progress. As it were we have been sowing the seed, and now we are just on the threshold of a bounteous harvest.

Until the last few years the old world looked upon our medical colleges as the members of the Wapello County Medical Society estimate the Still Emporium at Kirksville, Missouri. As a nation we have been almost clinically tolerant of all forms of quacks and quackery. Often the shoemaker has thrown away his awl and last and taken up the pill bag, acquired the title of "Doc" and become quite a local celebrity for handling the intricate ailments of women and children. These have filled their place and like the American Indian are rapidly vanishing, before the march of civilization.

Rank patent medicines, dangerous compounds were foisted upon the people without let or hindrance, and guaranteed to cure all ills to which flesh was heir. The press reeked with nauseous praise of these villainous concoctions, and fought their legal suppression to the last ditch. Federal

*Read before the Wapello County Medical Society, March 2, 1920.

legislation along humane and just lines are now rapidly plucking this poisoned putrescence.

The great majority of our medical schools were conducted for revenue only. Two years course of six months each, without any preliminary educational requirements were making the farmer, the plasterer, an M.D. in eighteen months and often the doctor by his grammatical construction and orthography plainly evinced his educational status. His raucous. "I seen him when he done it and knowed he hadn't ought to," writing leg with two g's and unable to spell medicine correctly evinced to the public that physicians and surgeons were like Horace says of the poet, "Nacitur non fit." This hurley-burley irresponsible status of our profession made us indeed the butt of every joke in the old world, and rendered us unworthy of any recognition from a class of highly educated and thoroughly equipped men the world over, U. S. excepted. Fortunately there were some exceptions to this chaotic mass, a few men were thoroughly from choice, not necessity, educating themselves to the highest standard. A few medical schools—Harvard, the University of Pennsylvania and College of Physicians and Surgeons of New York City—were the pioneers of a more extended curriculum.

Following our Civil War, there was a startling awakening of our shortcomings and a great revival of teaching began to be preached. The American Medical Association took up the theme of medical progress, and to N. S. Davis of Chicago, is due, doubtless, more than any other man in the profession. The leaven once started, became popular and with one accord all over the land the status of our medical schools has been gradually improved, until now they are comparable to those of any other nation, and soon savants the world over will be making pilgrimages to our shores, for enlightenment along special lines. The American physician by reason of his environments, seldom made any pyro-technique advance, but endowed with honesty and energy, quickly adopted all he thought good. Foreign physicians were received with open arms, and patted on the back, their progress quickly noted, and adapted, and even their foibles quickly copied. Whereas an American physician in the old world was appreciated like Mrs. Wiggins, at a soiree at the Vanderbilt Fifth avenue mansion.

The first medical college was founded in Philadelphia, in 1751. Twenty years later New York City established one. Although Philadelphia rocked the cradle of our republic, she has always evinced an ultra conservatism along medical lines. In 1843 O. W. Holmes published his brochure,

in which he emphatically made clear, with abundant proof, that puerperal fever was contagious, and closely akin to erysipelas, thus by sixty years foreshadowing man's greatest destroyer, the streptococci. Twenty years later Semmelweis, in Germany, confirmed Holmes' findings, without giving his credit. Meggs and Pepper, and Parvin, in the eighties were ridiculing the contagiousness of any fever or any wound infections. In the latter part of the eighteenth century, Dr. Rush, the statesman, patriot, skilled and learned physician, by his writings and lectures added dignity and culture to American medicine. In 1809, Ephram McDowell, did the first ovariectomy. In 1822, Dr. Bigelow was the first to demonstrate that disease was a self-limiting affliction, and that rest, hygiene and the *Vis Medicatrix Naturae*, were the great factors in the banishing of disease. This was the greatest boon ever proffered suffering humanity, as before all disease was looked upon as a veritable entity, only to be banished by oft repeated and ever increasing heroic medication.

In 1832, Dr. Jackson proclaimed that prolonged expiration in the apices of the lungs, with mucous rales, were diagnostic of *Pneumonia*. Carr in the same year first demonstrated the presence of crepitant rales and showed them in the beginning of pneumonia. In 1843 Dr. Morton first advocated the use of sulphuric ether for safe and profound sleep, in surgical operations. Ether had been discovered several years before this and many varied experiments had been made with it. It had been determined that the inhalation of its gas, would produce light sleep. But it was for Dr. Morton to demonstrate its capability, of profound sleep with perfect safety. Dr. Jackson and Wells endeavored to rob Dr. Morton of this great honor. The first surgical operation under ether was performed in Boston by Drs. Bigelow and Warren, 1846. Dr. Jackson administered the ether. In less than a year the civilized world over was using sulphuric ether in all surgical operations. This did more to render Boston and the United States famous than any other thing in the history of medicine. The English people at once took up the use of chloroform as an anesthetic inasmuch as it was their own discovery and even today is quite extensively used. Dr. Guthrie was the first to discover chloroform in 1833 but Sir James T. Simpson of Edinburgh was the first to use it in surgery. Dr. Bowditch in 1852 first elaborated the first successful operation in empyema. Dr. Horace Green first perfected the laryngoscope. Dr. Valentine Mott, the bold and skillful surgeon was the first to successfully tie the larger arteries.

In the sixties, Dr. Marion Simms of New York City made successful the operation for vesico vaginal fistulae. S. Weir Mitchell, advanced the knowledge of nerve pathology, and its successful treatment. Bigelow in the latter part of the last century greatly advanced the operative technique of bladder surgery.

While no brilliant stars of the first magnitude ever shone in our medical firmament there were hundreds of able conscientious men working tirelessly for the good of humanity. It would require a small book even to mention their names, yet thirty years ago we had in addition to those I have mentioned, Pepper, Keating, Flint, father and son, Clark, Da Costa, Osler, Gross, Park, Brainard, Senn, Finger and Parker.

No paper however short should omit the name of John D. Murphy. He was doubtless, one of the greatest teachers of the day and age. His wondrous store of knowledge was imparted freely, and clearly and his surgical technique was of the very best. His work in restoration of the joints and his buttons for bowel anastomosis, have rendered his name famous. Thus far we have only mentioned the departed, but the greatest living man of today is William Mayo. While he has made no startling discovery along surgical lines he is the greatest medical organizer the world has ever known. His work will pass his name down into history as one of the greatest of the great.

The progress that has been made by our profession has been safe, sane and constant, there have been no "Will-o-the Wisps," or flighty tangents; this progress has all emanated from our own ranks, not by the reason of the complaints of patrons, nor from federal or state legislation. In fact every enactment that has been passed in the last three decades, had emanated from within the profession itself. The good fellowship and rapid improvement that has been made is attributable to our system of organization, wherein the county society is a part of the state and in turn each a member of the American Medical Association.

Boerhave two hundred years ago, left a book, on the outside of which was written, "The Great Secrets of the Successful Practice of Medicine." At his death, it was found however, that, this book proved to be a blank with the exception of one page near the center of the book. It read, "Keep the feet warm, the head cold and the bowels open." This doubtless at the time represented most of what there was to the practice of medicine, but since that time innumerable things have been discovered worthy of having been written in this book, of which United States claims the honor of having done her full meed.

RECIPROCAL RELATION OF WISCONSIN WITH HER NEIGHBORS*

JNO. MORRIS DODD, M.D., Ashland, Wisconsin

My object in presenting this subject before this body is to call to the attention of the profession of the states bordering on Wisconsin, the lack of uniformity in our medical laws. The inquiry continually comes as to why a doctor licensed to practice in one state should not be equally qualified in any other state. I wish to bring out discussion on a subject that will ultimately lead to a solution of the question of common license to practice in any or all of the states of the Union. It is understood, of course, that I do not claim to be presenting a new subject for it is one that has claimed attention of some of the leading minds in our profession for some time past.

Laws regulating the practice of medicine have a two-fold purpose. Primarily to protect the public against incompetent or dishonest practitioners and secondarily, to protect reputable practitioners who have prepared themselves by a long laborious and expensive course of education and preparation and are honestly trying to prevent, relieve and mitigate the physical ills of their fellow beings. There have always been hanging to the skirts of the medical profession a varying number of cults, healers, etc., who soon get to the point which they believe is the acme of medical knowledge and endeavor by all sorts of short cuts to get into the circle where they may be considered on an equality with the educated and competent doctor. They seek, not to rise to the heights of scientific achievement, but rather to bring all else down to their own level.

There is ever the charm of the miraculous, the lure of the mystic, belief in spiritual endowment and Divine call that appeals to the afflicted, and calls into service a class of practitioners who are willing to administer to, or impose upon them. There are some of these cults that might be useful branches of the great tree of medical knowledge, but the trouble with them is that they believe themselves the main trunk and that the regular medical profession is only an organized group seeking its own protection. Much capital is made by these people out of the expression "Medical Trust" seeking thereby to invoke the common dislike of trusts and in true bolshevistic style bring distrust upon the real benefactors of mankind. Unfortunately education and enlightenment have not yet removed us from the sphere of their influence for the most educated and refined are

*Read before the Tri-State District Medical Meeting, Rockford, Illinois, September 1, 2, 3, 4, 1919.

among the most ardent devotees of the rankest quackery.

There is another class educated as the rest of us, understanding human nature better than the most of us, commercial in spirit, selfish in nature, believing that the one thing worth while in life is money and to acquire it are willing to prey upon the frailties of humanity. They are cunning advertisers and play the game well. They are always with us, and though we at times despair of ever being rid of them, the advertising quack is undoubtedly becoming less numerous as his activities are restricted by law and his methods are brought into the light of day. To this class the credulity of the people is a rich asset and the imaginary more than the real ills of humanity furnish an abundant harvest. Laws regulating the practice of medicine are now operative in all the states, but each has its own and the lack of uniformity in them makes it necessary to administer each separately, therefore, there is a department in each state whose function is to enforce this law.

In Wisconsin the medical practice act safeguards the health of the people about as well as it is possible to do so under present conditions. The enactment of the present law provoked a storm of protest from some of the doctors over defects that were more apparent than real. True it falls short of the ideal and seems to work hardship sometimes on worthy members of the profession. It is impossible to correlate the views of all into one concrete law. Only two examinations are held yearly, and no temporary permits to practice are granted so that only at the January and June meetings can the examination be taken. Applicants for reciprocal license may apply at any time, and as the reciprocity committee meets on call it is possible to favor these applicants as to time. In the days when temporary permits were granted, doctors came into the state, became established in practice, bought property and settled their families, and when it was found that these men could not qualify, it was a double hardship to compel them to sell out and move.

This happened in a few instances, and led to the rule that temporary permits would not be granted under any circumstances. As few doctors are now coming up for examination except those just graduating, the winter and summer sessions meet these requirements very well. We have removed the restrictions as to reciprocity from those who have been commissioned in the army, navy and public health service, and admit to reciprocity all honorably discharged commissioned officers of these services, if they graduated from accredited schools. This has not been

an unmixed blessing for some who could not get into our state before, on account of the low grade of their schools, are since the war trying to come in under this reciprocal waiver.

We have a provision for the itinerants, who by the way cannot be reached in any other manner, and we issue an itinerant license at \$250 per year, thus keeping them under surveillance of the board. We say to the Christian Scientists in substance "The Lord be with you" for we can't and to the chiropractor you must keep before the public a placard proclaiming that you are not licensed in Wisconsin and we patiently wait knowing well that these fads will run their course and that something else will come along to tickle the credulity of the public.

It is evident that we do not possess a model medical practice act in our state and whether or not it is possible to get one through our state legislature, is a question on which we are divided, and we hesitate about trying to change it, for fear of getting something worse.

With all the short cut people deluging our law making bodies with claims for recognition and the propaganda against the so-called "Medical Trust," some feel that we should be satisfied with what we have while still others maintain that we should permit the wiping of all medical laws from the statute books rather than even mention the quacks negatively. The middle course has prevailed in Wisconsin and time only will tell if we are right. The principal object of our law is to protect the public and yet the entire expense of administering the law is borne by the medical profession and its subsidiary branches which are licensed or registered by the State Board of Medical Examiners. No funds are provided except those that come in as fees through the board. In other words, the medical profession is permitted to protect the health and lives of the people if it will pay its own expenses. The powers of the board are limited when it comes to regulating the conduct of its licentiates, and few seem to know that it is only within the province of the courts to deal with the wrong doer. Our legal department is ever ready to co-operate with the local authorities, but it is generally hard to get evidence in sufficient shape and form for legal action, and even then juries convict these people so rarely that it does not seem worth while to bring action against them.

Wisconsin reciprocates with her neighboring states on an equitable basis, and it is seldom that satisfactory arrangements cannot be made for residents of one state to obtain a license in a neighboring state, but only those who have been

licensed after examination can be licensed by reciprocity in our state.

We find difficulty sometimes in getting the older practitioners to take the examination which is required of all who cannot obtain license by reciprocity. Some feel that it is beneath their dignity to submit to an examination when they have occupied high places in the profession elsewhere, and others fear the examination after having been out of school so long. To the latter a liberal allowance is made for the years of practice and the reputable and ordinarily qualified practitioner need not fear our examination.

Before writing this paper, seventy-five letters were sent out to physicians along the Wisconsin borders, asking what difficulties, if any, they had met with in practicing across the state line. Many interesting replies were received. Very few of them revealed a desire for protection from competition with brother physicians across the border. Some were licensed in both states and many were not. Many were content with conditions as they are. One letter, though pessimistic in tone, revealed what is evidently in the minds of some of these border physicians, and is as follows:

Regarding your request as to conflictions with medical laws of adjacent states, will say, that I went to considerable expense and trouble to fit myself to practice medicine in Wisconsin, and later on, I had to go to further expense and trouble to comply with the constantly increasing requirements of Minnesota. I paid my \$50 "reciprocity" fee etcetera, and now a man comes into town and goes over into Minnesota territory among my patients, without any license and without any extra expense and cuts the already paltry fees. Generally speaking, the Stillwater men come over here, and we go over there without friction, but you know you have to register to have any standing and to collect.

My observation of medical laws in general tends to give me a bolshevistic impulse. They work well for the quacks, cheap skates and Christian Scientists, say nothing of the chiropractors, who display their "not licensed" signs as their authority to practice, these fellows either subvert the law or in some way get by it, while the legitimate and ethical student of medicine has to comply or does so at least to remain in good standing.

Like many another fellow, I have wished to go West to practice, but after complying with all the requirements of our state board, and with all the laws of common sense and decency, I would still have to "take the board" in Washington, Idaho or Montana. No other man seeking to make a livelihood in this great incongruous jumble of states, except perhaps the dentist or horse doctor, has to go through such a hold-up, after he is shown to be qualified in his home state. He may go run a store, a creamery

(and with it a laboratory for disease germs) sell cars or cigars, or what not, and pay no license for coming from another state. At least if he pays any, it is small. Lawyers have no trouble passing "the bar" of any state they wish to inhabit.

From Marinette, Wisconsin, comes this message, after inquiries among the doctors there. "The men are unanimous in their declaration that the state laws have in no way interfered with the legitimate practice of medicine. Very few men in this city, or its sister, Menominee, hold a license in a neighboring state."

One man who has practiced on the Minnesota border for thirty-seven years has had no trouble. From Iowa comes the message: "I have practiced medicine in this place for forty-nine years, and not during that entire period, have I found by experience or observation that the state medical laws interfere with the practice of medicine beyond the state border."

From Minnesota: "I have practiced here for thirty-five years and all of that time, have been called frequently into Wisconsin opposite here, and have never been questioned or molested in this practice."

A Wisconsin man says: "What is right in Wisconsin ought not to be a crime in Minnesota."

One calls attention to the need of uniform regulation regarding the reporting of births, deaths, contagious diseases, and quarantine. One has practiced on the border since 1874, and has not been disturbed in his practice by law. One says he hardly thinks of going into Wisconsin as going out of the state.

One local experience from Michigan, is to this effect, "that there has been no hindrance nor interference in any way by the neighboring profession, or the civic authorities where eligibility was not in question, and the reverse is true regarding Wisconsin practitioners who cross our boundary and offers this as a suggestion: "To all reputable practitioners of regular medicine, practicing in towns or communities at or near our borders give free permission for entry if they abide by your laws, ethical and legal," Marinette and Menominee report free interchange of services without any friction, and very few are licensed in the opposite state.

From Illinois comes this statement: "No one has interfered with my work across the line in Wisconsin, and I have been under the impression that the Wisconsin law contained a clause permitting such practice."

An Iowa physician says: "I should have registered in your state years ago, when I might have

done* so, but neglected it. 'I have long been of the opinion that a medical degree should not be confined by state lines."

From Beloit comes the message: "The laws are very fair, and I do not think work any hard-ship."

A brickbat that comes from Minnesota: "I believe that there ought to be a reciprocity between all the states if they have reasonably high standards for the issuance of medical license. Generally speaking, the flourishing of the quack business does not appear to hurt my business noticeably as the people who patronize them probably would not doctor with me anyway, at least for the real or alleged ailments for which they consult these charlatans. However, whether it be because of inadequate Wisconsin laws or because they allow these healers to get so large a following before they attempt to prosecute them in Wisconsin, that it becomes practically impossible to get them convicted. I have known at least two notorious quacks who had to get out of Minnesota, but practiced with impunity in Wisconsin, if indeed they are not doing so yet. Sometimes they locate just east of the St. Croix, or near it, and people have been known to go by wholesale from Stillwater over the St. Croix bridge to see alleged doctors who were not allowed to practice in Minnesota."

There are a number of other letters which make interesting reading, but to quote them here would make the paper unduly long. They show that the doctors along the state border are practicing without the due regard to the state laws, but there is no evidence that they are doing this in wilful violation of the law, and are not exceeding their moral rights.

By these letters and from many other sources, we are admonished again and again that a license in one state should be good in any other state, and that there should be some tribunal before which one could qualify once for all. Various agencies are at work to bring this about and the National Board of Medical Examiners has been the outgrowth of this demand. It seems, however, that this board has no legal recognition in the states and consequently its diplomas cannot be recognized. We feel that this will be brought about in the near future, and we should bend our energies in this direction.

In order to obviate the necessity of having to take the examination at some future time when they have become rusty on some of the subjects, we frequently find men taking the examinations in a number of states to any of which they may want to move in the future. I, in common with the

rest of the profession, hope the day is not far distant when one license will enable a doctor to practice in any state of the Union, and for a general awakening of the people to the fact that it is only the fully qualified physician who is to be entrusted with the lives and the health of the people, and that only from this source has ever come any good or lasting benefit to humanity.

In the meantime, the parasites hang on and clamor for recognition from our law making bodies and they present a solid front.

In Wisconsin the osteopaths are just now invoking the aid of the courts to compel us to admit them to the examination in surgery, which means that if successful there is no barrier to their having the full rights and privileges of the medical profession. It is incumbent on the whole medical profession to rise in their might and prevent the osteopaths from being admitted to full membership in medicine or surgery until they have taken the full course prescribed for the regular medical profession and when they do, we are confident they will want to be real doctors and not short course men.

There are those now hearing this paper who when contemplating the efforts the profession has made and is making for the protection of the people against the imposters, who are continually preying upon them, have often asked—what's the use?

Some say in their haste that we should throw all the medical laws to the winds and not try to regulate the healing art, but no one will insist upon this after sober reflection. No true disciple of Aesculapius can get away from the altruistic bond which holds him to his duty to his fellowmen and becomes stronger as he grows older in the practice of real medical art in spite of the pessimism which at times comes over us all, when we experience some of the many disagreeable phases of our work and associations.

To do away with the laws regulating the practice of medicine, thus giving free hand to the quack and charlatan, would reverse all incentive to real scientific medical work, and few men of scientific attainment would want to be in a profession among such associates. Medical science would soon drop back a century or more and we must not forget what has been accomplished during the period of the past half century.

The generation coming has inherited a priceless boon from the one now passing, and as we pass along our achievements and those of our colleagues and predecessors, let us see to it that mankind shall be assured of a continuance of the blessings true medical science has conferred upon

it. We cannot do this better than by establishing uniform and high standards of medical education and then grant authority to practice which will be equally honored in all the states.

Discussion

Dr. Chas. F. Wahrer, Ex-President Iowa State Medical Society, Fort Madison—Mr. Chairman, I would like to offer a few thoughts on the subject. You remember what we did in 1776. It was reiterated in 1812, and when Jackson said in 1830 that "by the eternal, the Union must and shall be preserved. Send for General Scott," we did it again. This same principle of United America not consisting of states but being one country, that America is and not are, was again forever fixed in 1861. Here lately, while we got hysterical and began frothing at the mouth, still the idea of Americanism was wonderfully emphasized. Good for the emphasis! I want to place the same kind of emphasis on something I want to say. I am in for universal suffrage. I mean universal reciprocity; it's all the same. My mother brought me from Germany when I was a little babe in arms, but I became an American and expect to die such and leave American principles instilled into the hearts of my children, two of whom were in the service of the United States Army. I am in for universal reciprocity. A man who is good enough to practice medicine in the State of Iowa is good enough to practice it in Wisconsin, ditto Illinois and any other one of the forty-eight states of the United States. I have been following up the educational numbers of the Journal of the American Medical Association. I have taken an interest in education all my life and especially in medical education and I have noticed a great many states that have lain back complacently on the fact that they have the oldest medical colleges, that by the way, have had to be prodded up by the American Medical Association to come up to their proper class. Those of you who are not acquainted with this will find it in the Journals; you will see how they have gradually stepped from Class C to B and from B to A. You know there is a shortage of doctors all over the United States. In these days of automobiles and telephones and telegraphs and flying machines, it becomes almost impossible to get a doctor of any kind to locate in the smaller towns and at the cross-roads where they are still needed, because people are sick there as well as anywhere else. We can't send to the metropolitan cities to get help for these people every time we need it. I am in for medical education of the highest kind, but I believe that when a man is able to practice in one state of the Union, he should be able to practice in every state of the Union, because the Union is one inseparable and forever; we are one people. We are not a number of people. I don't believe in states rights; I don't believe in boundaries for science. Science is universal and medical science is especially so all over the world. We cannot pen it in one place and let one state

stand up before us and say, "We are the people and we will do as we see fit."

CHOLELITHIASIS*

F. S. LEONARD, M.D., Cascade

By cholelithiasis is meant the formation of gall-stones. Knowing that this subject covers a most extensive field, it is my intention to refer briefly to the phases of this condition, other than treatment to which my remarks will be particularly confined. With reference to the history of cholelithiasis, it is a rather curious fact that nothing is mentioned in the historic medical records that are preserved from antiquity and from the middle ages—of gall-stones.

Antonius Benevernus (died in 1582) was the first to describe their occurrence in the finding of an autopsy on a woman who died after intense pains over the hepatic region. This condition was also described by Fernel in 1554—the great anatomist Slisson 1569, and about the same time Blasius pictures the first exactly observed cases of hepatic colic associated with icterus.

Regarding the symptoms, when such do occur, they are at first very indefinite; general distress and slight radiating pains in the region of the liver, digestive disturbances, and slight icterus are amongst the first symptoms, and indicative signs, but their dependence upon gall-stones is not always recognized in time. It is very rare that one is able to palpate the gall-bladder even in individuals with thin abdominal walls. On the whole, it may be stated that gall-stones can only in rare instances, be felt.

The diagnosis is not difficult in typical cases of colic. The most important fact is to accurately determine the exact localization of the pain, confusion with intestinal, lead, renal, gastric colic, appendicitis, duodenal ulcer, or cardialgia may occur. Icterus is important for diagnosis but is absent in over 50 per cent of cases. The safest conclusion can, of course, be derived from a demonstration of the stones in the passages.

Concerning the etiology, the principal factor in the formation of gall-stones, is a catarrh of the biliary ducts and gall-bladder, which is traceable in the majority of cases to an infection of the gall-bladder by micro-organisms—based upon an abnormal intermediate metabolism of the liver. A close relation seems to exist between gall-stones and pancreatitis.

*Read before the Dubuque County Medical Society, May 13, 1920.

TREATMENT

Prophylaxis—The patient must avoid all foods which might possibly lead to indigestion, and thereby, predispose to infection of the biliary tract. It is essential to insist on light meals, because food which in itself is not harmful, may bring on an attack of colic by its bulk. A diet that is rich in fats must be strictly avoided, as well also as a diet that gives rise to much gas, for instance; peas, beans, sauer kraut, pies, sauces, salads and raw fruit. If the subject is inclined to jaundice, sugar should be ingested sparingly.

Regular evacuation of the bowels is important. In accomplishing this the use of strong purgatives should be avoided, as powerful mineral purgatives do more harm than good. The cathartic of choice, and the one productive of the most satisfactory results is simply some form of cascara in liquid form continued daily at intervals.

Gall-stone sufferers must avoid all clothing that tends to constrict the abdomen; also they must use caution in driving or riding in conveyances which cause much vibration and thereby soreness.

Treatment During an Attack of Colic—The patient must be put to bed immediately, a hot water bag applied over the liver, and $\frac{1}{4}$ gr. morphine hypodermically at once. Very often hot drinks or gastric lavage will give gratifying relief. The severe colic always requires opium, however, for nothing else so quickly or so gratefully relieves the agonizing discomfort, but in patients who are chronically sick the danger of an opiate must never be forgotten.

If a slight chronic icterus continues after an attack of colic, and especially if the liver and gall-bladder regions are sensitive, it is advisable for the patient to continue cascara for several weeks and also to indulge freely of water several times a day.

Medicinal Treatment—Gall-stones cannot be dissolved by any medicine that can be taken by the mouth or otherwise. All medicines that have hitherto been supposed to have this power bring about only apparent and very transient improvement by their anadyne effect. Olive oil, oleate of soda, glycerin, preparation made from bile and bile salts are of doubtful value. Glycerin at times is effective in treatment of hepatic colic. A relatively large dose of about one ounce will frequently bring the crisis to an end. In certain cases of cholelithiasis stimulating the secretion of bile will cure attack.

The value of olive oil is useful only in those cases in which obstinate constipation exists, and then its value is confined to enemas.

Skimmed milk diet is indicated, and in many cases also buttermilk alone is the only food which is tolerated. An enema of laudanum and an tipyrine is sometimes useful. Finally if all these fail morphine must be used hypodermically as often as necessary to control the spasmodic pain until the patient is tided over the attack. The medicinal treatment subsequently should not be continued too long. The dangers from complication are too great and especially the alarming increase of cancer of the biliary apparatus, that is traceable to the effect of gall-stones.

As soon as a diagnosis of gall-stones is made definitely and the condition of the patient permits it, surgical treatment should be recommended whether the gall-stones are due to infection or otherwise.

Spontaneous cure of cholelithiasis is very rare and cure by medicine impossible. Gall-stones when found to be present are to be removed, it matters not in what part of the duct they are found and it is, as a rule, possible to do this if the operator be competent.

The *surgical treatment* of cholelithiasis is the only method to be employed to effect a permanent cure, and should always be resorted to, regardless of age or sex. Unless there are marked indications to the contrary, cholecystostomy is advisable in pregnancy, and for old people whose resistance is often lower than their clinical examination indicates. When done at the proper time, under favorable conditions by competent operators the mortality is very low.

Most prominent surgeons concede and the conclusion seems warranted that it is neither necessary nor advisable to remove the gall-bladder, except when it is diseased or injured beyond the possibility of restoration, and this power of restoration may be presumed to be lost only when one or the other of the following conditions prevail:

1. Hydrops with obliteration of cystic duct.
2. Calcareous degeneration or fibrous degeneration with contraction.
3. Chronic empyema.
4. Carcinoma or suspected malignancy.
5. Gangrene other than localized gangrene, such as is sometimes caused by a stone.

In the management of cholelithiasis the x-ray is of important consideration, though from 40 to 50 per cent of gall-stones are of such composition that they cannot be shown. It is definitely possible to show stones in approximately 50 per cent of the positive cases, and to show a gall-bladder lesion in 85 per cent of gall-bladder disease. The

time has come when the x-ray examination should be required in every suspected case of cholelithiasis.

Gall-stones may vary greatly in variety of shapes and sizes and the number may be astonishingly great.

The specimen herewith submitted measures 7 c.c.m. by 8 c.c.m.

Case Report—On November 21, attended a woman, Irish, weighing 172 pounds, sixty-one years old, for acute abdominal pain, with history of sudden onset, chills, fever $101\frac{1}{2}$, pulse 86, nausea, but no vomiting, constipation, but not marked, clay colored stool, marked gastric flatulence, frequent eructations of gas.

Patient felt no indisposition previously, except that two or three days prior to the attack she had done considerable riding in an auto over rough roads and attributed the abdominal soreness to the shaking up by the car. Past history was negative except that about twelve years previous she had an attack of epigastric pain similar to this, was sick a few days and upon receiving treatment from a physician for billiousness made an uneventful recovery, and had never had an attack since, but seemingly enjoyed robust health.

At the onset of this latter attack, however, she had been for several weeks under a severe nervous strain on account of immediate family troubles.

Family history gave evidence of gall-stone trouble on her mother's side. An aunt having died during a severe attack. Physical examination negative, except for the abdomen which on palpation showed extreme tenderness over upper right quadrant, especially at the point where the ninth intercostal nerve pierces the rectus muscle, which is the most reliable sign of gall-stone trouble when associated with colics, same being referred to as Abraham's sign. Over the effected area there seemed to be swelling, which did not reduce after mild catharsis with expulsion of much flatus.

A diagnosis of cholelithiasis was made and as the patient was not in severe pain, external applications of heat were resorted to with little success. The symptoms becoming more exaggerated in a few days, requiring $\frac{1}{4}$ grain morphine by hypo to relieve pain.

About the fifth day icterus became apparent, but not marked. On the seventh day vomiting and retching disturbed the patient at intervals of eight to twelve hours, pains became more severe although all forms of food had been withheld from the onset, requiring $\frac{1}{4}$ grain morphine every four hours. On the ninth day patient became violently distressed. Temperature dropped to 98. Pulse went to 130 and general collapse ensued, followed shortly by vomiting of about 8 oz. blood and almost simultaneously passing a stool of entirely blood, about 16 oz. Before defecation much pain was complained of in intestine. This bloody stool revealed an extraordinary large single stone which on account of its size must have escaped by rupturing through the gall-bladder

and into the duodenum, thus causing the profuse hemorrhage which together with the excruciating pain had produced such extreme shock.

At this time Dr. Guthrie was called in consultation and after careful examination of existing conditions advised rest, continuance of opiates and abstinence from food for at least five more days, and surgical interference later depending upon subsequent results.

For thirty-six hours following the passage of the stone the patient continued in a very weakened condition which at time bordered on syncope, and during the time the stools were pure blood which had filled the intestine at time of hemorrhage. At the end of one week she was able to take small amount of liquid nourishment, and gradually made a very nice recovery. In the course of several weeks the patient was apparently as well as ever, and has continued so ever since, suffering no distress whatever in the abdomen.

This is a most singular case from several aspects:

1. That the patient should experience such a violent attack with no previous warning except the one slight attack several years ago.
2. That she should withstand such a severe shock as was entailed in the rupture of the gall-bladder causing such severe hemorrhage.
3. That a stone of the size passed was able to migrate through the small intestine and be expelled.
4. That presumably it was the only stone in the bladder.
5. That after such an ordeal the patient should make a decidedly rapid and complete recovery without surgical interference.

The case seems to impress upon one the wonderful workings of nature and the importance of sometimes placing more confidence in the greatest of all human physicians—nature.

AMERICAN COLLEGE OF PHYSICIANS

At the annual meeting of the officers and councilors of the American College of Physicians held at Baltimore, Maryland, February 25, the following officers were elected: President, Dr. James M. Anderson, Philadelphia, professor of medicine, graduate School of Medicine, University of Pennsylvania; vice-president, Dr. Frederick Tice, Chicago, professor of medicine, University of Illinois; second vice-president, Dr. C. C. Bass, New Orleans, professor of research medicine, Tulane University; secretary-treasurer, Dr. Frank Smithies, Chicago, associate professor, University of Illinois; treasurer, Dr. Clement R. Jones, Pittsburgh, professor of medicine, University of Pittsburgh.

AMERICAN MEDICAL ASSOCIATION

The annual session of the American Medical Association will be held in Boston, June 6-10. It is expected that the railroads will make some concessions in rates and arrangements will be made for differential round trip itinerary including Niagara Falls, St. Lawrence River, Thousand Islands and boat trips from Boston to New York.

The Journal of the Iowa State Medical Society

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REPORT OF THE SCIENTIFIC MISSION TO THE UNITED STATES APRIL AND MAY, 1920

It will be recalled that in April and May a group of medical experts representing Great Britain and France visited the United States to study medical conditions in America, under the direction of the American National Committee, represented by Drs. W. L. Bierring of Des Moines and D. A. Strickler of Denver.

The delegation attended the session of the American Medical Association in New Orleans and visited many of the most important medical schools. La Presse Medical for December 11, 1920, contains a somewhat detailed report of the impressions gained by this visit, not only as to the medical schools, which are enumerated, but of medical organization as represented by the American Medical Association.

According to the views of the French committee the A. M. A. occupies an unique position; a scientific and learned body of men not comparable with the French Associations in that it exercises an important role in all matters relating to the interests of the medical profession, which in France is the function of the state. The report presents a brief outline of the work of the A. M. A. through its Council on Medical Education and its Council on Chemistry and Pharmacy. In France the Academy is authority only on purely medical subjects, while other medical activities belong to the state. An enthusiastic account is

given of the great American Association with its 75,000 members, its great attendance (3,500 at New Orleans) and its building, its printing offices and its great journal. The report dwells on the A. M. A. classification of schools. A—Good schools; B—medium schools; C—bad schools. G. Roussy and E. E. Desmarest, professors agrege a la Faculte de Medicine de Paris, who make the report, feel quite sure that the class A schools in the United States are quite equal to the medical schools in France.

The committee write in complimentary terms of the post graduate schools in the United States, particularly of the Mayo Clinic which they studied with minute care, and which appears to have been taken as a type of graduate schools. Thirteen schools for post-graduate study are given as existing in the United States. Referring to unclassified schools regret is expressed that; "In spite of the efforts made in recent years in the United States to obtain a disappearance of these schools, certain among them have many students." This is accounted for on the ground of a credulity which so profoundly influences the American people and an active "proselytisme."

UNIVERSITY ANNUAL ALUMNI CLINIC

The Iowa University School of Medicine announce that the annual clinic will be held April 12, 13, 1921. In addition to the usual clinics in surgery medicine and the specialties by the heads of departments, Dr. W. J. Mayo will deliver an address in the morning of the second day. The subject announced is "Splenectomy in the Treatment of Certain Conditions of the Blood and Liver."

These clinics have become an important function of the University and should not only bring a large number of the alumni but also other physicians to Iowa City. These meetings serve to bring the physicians of the state together for mutual professional and social improvement but also to extend the hand of encouragement to the university and its faculty. The attitude of the profession towards our medical school has an important influence in securing a liberal support so essential to the future success of the institution.

We trust that our readers will keep the date of the clinic fixed in mind.

THE SILENT INFLUENCE OF THE STATE MEDICAL SOCIETY

In these busy days when the world is filled with uncertainty, we perhaps think but little of the silent influences which surround us. We all prob-

ably have a theory and an opinion but upon what they rest, we may not be certain, but there are associations and traditions which influence us in some unseen and silent way.

A little medical history will show that surgeons were formerly separated from the barbers in 1745. In England and in Germany the army surgeon in 1743 ranked but little above the drum major and being a barber's apprentice, he was required to shave the officers. It was not until 1785 that German army surgeons received any distinctly medical training and France was but little in advance of England and Germany. If we inquire what lead to a change in these conditions, we will find it to have been organization and the necessity of war. Frederick the Great, in his Silesian campaigns, found his army so sadly deficient in surgeons that he sent cadets to Paris and Strassburg to complete their surgical education and in 1743, engaged twelve French surgeons, with assistants to look after his troops.

It is scarcely a hundred years since medicine became an organized profession, and until some form of organization was accomplished, medical practitioners were scarcely more than higher class servants. This was the traditional relationship which has not entirely died out and consequently only here and there did men of learning and ability enter the profession of medicine. The doctors as a class were "pretentious quacks" and the subject of ridicule by the cultured. The cultivation of science brought forward men of wider vision who saw the advantage of organization; first as local organizations for social purposes and later national for broader functions as the American and British Medical Associations and in our own country the state and county societies. With this organization there has come about a correspondingly increased influence of the medical profession and the people have become more deeply impressed with the importance of medical science and a less regard for pretenders and for strange and mysterious methods of cure.

There can be no serious doubt of the silent influence of medical organization particularly the state and local; not only is this felt by the profession itself but by the people in general. There are men, of course, who oppose all restraining influence, who rather feel it to their interest to avail themselves of the ignorance and prejudice of a certain class of the public and pretend to look upon medical societies with contempt, but they are soon found out and a valuation placed. The public is familiar with labor unions, commercial clubs, lawyers' associations, ministerial associa-

tions, agricultural associations, grocery men's associations, and all kinds of unions and associations. The public has apparently come to believe that all kinds of business that is worth while is organized in some way or other. (We do not understand that peanut and popcorn venders have organized yet.) It would not be difficult to believe that an intelligent community would look upon a doctor who did not join in medical organization as having the same relation to the medical profession as the peanut man has to commerce. Some unions or organizations are no doubt for the purpose of collective bargaining, but all professional and business organizations come under the silent influence of association. No man feels particularly instructed by the papers read, or by the discussion, but it is the silent influence of the environment. Very few men who have taken part in a discussion believes he has imported much knowledge but there is behind his effort a silent influence which he cannot define and which silently enlarges his mental horizon. He feels a degree of satisfaction in knowing that he has a part, and has taken a part, in something that tends to expand mental and physical activities, that he has performed a duty and has therefore become a bigger man.

REPORT OF COMMITTEE ON MEDICAL ECONOMICS OF THE STATE MEDICAL SOCIETY OF NEW YORK PHYSICIANS' INCOMES

In this computation the cities of New York and Brooklyn are included as cities of the first class. Cities of the second class over 100,000, cities of third class 50,000 to 100,000, fourth class cities of less than 50,000.

In New York City the incomes from general practice averaged \$5,876.92, and the expenses \$2,355.63; specialists earned \$12,717.50, with expenses of \$4,280.42, and "part-time" specialists \$9,022.71, expending \$3,183.23. In Brooklyn the incomes from general practice averaged \$5,691.35, expenses \$2,161.72; specialists \$11,691.43, with expenses of \$3,286.80; "part time" specialists \$6,269.07, expenses \$2,102.90.

In the second class cities the general practitioner received an average of \$3,635.55, with an expense of \$1,853.58; specialists, \$8,604.16, with an expense of \$2,502.38; "part-time" specialists, \$9,037.50, with \$3,011.75 expenses.

Incomes in the third class cities derived from general practice were \$3,554.34, with expenses of \$1,004. The specialists received \$6,439, with ex-

penses of \$3,375, and the "part-time" specialist, \$10,745, with expense of \$3,687.50.

In the fourth class cities general practitioners received \$4,766.40, with expenses \$1,752.70; the specialists received \$9,101.47, with expenses of \$3,774.86, and the "part-time" specialists \$8,544.33, with expenses of \$2,759.18.

Incomes from general practice in the large towns averaged \$5,275.88, with expenses of \$1,729.96. Specialists received \$6,175, with expenses of \$2,700, and "part-time" specialists \$6,776.33, with expenses \$2,078.75.

The small town practitioner received \$3,419.68, with expenses of \$1,222.26; the specialists \$3,575, with expenses of \$1,125, and the "part-time" specialists \$4,666.66, with expenses of \$1,466.66.

Institutional workers earned on an average \$4,002.01, with an expense of \$660.50, and gave, without compensation, $4\frac{3}{4}$ hours per week.

The Indiana State Medical Journal, writing editorially on the same subject in the June number, 1920, states that according to the assertions of writers who seem to have investigated the subject the average income of doctors, all classes considered, is about \$750 a year.

In all probability this estimate is too low at the present time when most doctors are charging more for their services than they did a few years ago. However, at best the average doctor does not earn as much as the ordinary craftsman, and, in fact, the common unskilled labor, if he works regularly, earns more than the average doctor. If we take into consideration the fact that it requires about sixteen years of schooling after leaving the grammar grades, and an expense of about \$20,000 to fit a man to be a reasonable well trained physician, capable of filling a government or hospital staff position, we are led to believe, from average incomes of doctors, that education and training count but little when reckoned by a standard of dollars and cents.

VALUE OF MEDICAL AND SURGICAL SERVICES

Pennsylvania Committee on Society Comity and Policy believes that the fair way of computing the value of medical services is on the basis of the services rendered, not on the number of visits made. For instance, in computing fees for workmen's compensation the value of the services should be considered and not the number of dressings or visits. It is here that much confusion exists for the value of services cannot be fairly measured by the number of visits.

Time consumed in thoughtful consideration of a medical problem, reference to personal records and to medical authorities, frequent painstaking examination of the patient's condition, intensive attention to his own account of symptoms and carrying him safely through a serious illness or injury represent a service not to be requited by multiplying one, two or five dollars by the number of times the doctor has stepped into the sick room.

DENTISTRY IN RELATION TO MEDICINE

There are many indications to show that a considerable number of dentists are getting away from the idea that their work is chiefly mechanical.

The recent meeting of the dental association at Fort Dodge was suggestive of the future position of dental surgery as a branch of medicine; the publication of a most excellent journal "Dental Research," and the recent publication of Turner's work on Dental Hygiene are among the indications. Marshall County Medical Society holds joint meetings with the County Dental Society, with much profit no doubt. We are frequently informed of the extraordinary relation of dental infections to joint diseases, so-called rheumatism, neurasthenia, insanity, etc., which has been no doubt carried even to a degree of absurdity. Dr. Mills of Philadelphia in a paper recently published in the New York Medical Journal called attention to the sacrifice of teeth to the theory of dental focal infections as a cause of mental disorders of recognized organic character. Whether the responsibility was with physicians who advised the extraction or with the dentist who did the mechanical work such discreditable proceedings would be much less liable to occur if there was a closer professional relationship between the different branches of medicine.

We can see no reason why the local societies cannot invite dentists who have recently graduated from our university dental schools to become members, or at least follow the example of Marshall county and hold joint sessions. We are all engaged in the same work and for the same purpose.

CHANGING THE PROOF

There are certain things we feel timid about saying unless we can shift the responsibility to other shoulders. A certain thing has been on my mind for some time but have put off saying it until recently, I found what I desired to say in

the Illinois Medical Journal which we could quote without comment trusting our own members would catch the suggestion.

Each month we are presented with a bill by the printers for approximately \$50 for authors' changes and corrections. This represents a waste of six hundred or more dollars of the Society's money each year. This is extravagance and not a legitimate charge against the cost of publishing the Journal.

Papers sent for publication are accepted in good faith by the editor. Practically all of them have been read before a medical society and for this reason it is presumed that the article is a finished product.

After receiving the paper (either directly from the author or the secretary of the medical society before which it was read) the editor in the regular course has the article set up and proof sent to the author for his O. K. Only mistakes in orthography, punctuation or linotype errors are legitimate items for correction in the proof.

PRINCIPLE OF FEDERAL AID EXTENSION SOUND AND BENEFICIENT

"A short-sighted view;" was Surgeon General Cumming's terse comment on the opinion expressed at the recent Bankers' convention that federal aid should not be given to states for activities carried on in state and local communities. "In health work, especially," said the Surgeon General, "it is extremely important to recognize that the prevalence of communicable diseases in one part of the country is of very direct influence on the people elsewhere. Thus the investigations of the U. S. Public Health Service have clearly shown that the use of a polluted water supply in some remote rural district has often resulted in extensive outbreaks of typhoid fever in large cities hundreds of miles away; the presence of malaria in certain parts of the south has exacted a heavy economic toll from the country as a whole, for example, by raising the cost of cotton to the consumer; the northern investor has paid dearly for the continued prevalence of hook worm disease in various parts of the country, for where this disease prevails labor efficiency is seriously reduced."

"When the circumstances are carefully studied it is clear that the control of disease is not merely a local responsibility, but a joint responsibility of federal, state and local authorities.

"For every dollar of federal money spent," said Surgeon General Cumming, "We have secured five or six dollars worth of effective health work. Under the cost-sharing principles of the existing law, the Public Health Service has been able to effect very great sanitary improvements at a very minimum of expense. It is the judgment of all who have studied the results of this cooperative effort that the principle of the federal aid extension under which this work has been carried on is not only thoroughly sound but has proven of the highest benefit to the country as a whole."

AMERICAN RED CROSS

A Diminishing Profession

The American Red Cross sees in the widening disparity between the increase of our population, and the decrease in the number of graduates from medical institutions, an added reason for promoting general training in first aid and accident prevention.

The present standard of pre-medical education has lengthened the time and increased the cost of medical training, thus curtailing to a large extent the yearly attendance at the medical colleges. In 1904, there were 28,142 students attending the various medical colleges of the United States, this being the largest number in any year during the period 1880-1919. The total number of medical students in the schools for the year ending June, 1919, excluding pre-medical, special and post-graduate students, was 13,052. There was a decrease in 1919 of 578 below that of 1918.

The high standard of efficiency established through the reclassification of medical colleges has caused the closing of many of the smaller and more poorly equipped ones. In 1906 there were 162 medical colleges in the United States; in 1919 there were only eighty-five recognized medical colleges. In 1903 there were 5,698 graduates from all medical colleges, one graduate for every 14,020 of population. This number has gradually declined, in spite of the increase in population, until, in 1919, there were only 2,656 graduates, a decrease of fourteen below that of 1918—one graduate for each 40,230 people.

The longer hours and smaller remuneration of country practice have caused many physicians to move from the rural districts to the larger towns, where conditions are less difficult and remuneration greater. Many practitioners, desiring to specialize also, are attracted to the cities from the rural districts.

That the high standard of medical education must be maintained goes without saying, if we are to render efficient service to those suffering with disease. Nevertheless the shortage of practitioners has caused increased suffering in certain localities which is very severely felt. Those who reside in the sparsely settled areas are left to the care of untrained assistance and serious illness or loss of life often results. Numerous illnesses and injuries occur which, when improperly treated or if treatment is too long delayed, may prove fatal.

Universal first aid training would supplement the work of the physicians, take from them the burden of caring for unimportant injuries. To release their services for more serious cases, and would also place the victims of accidents in the physicians' hands in the best possible condition for future recovery.

IOWA STATE UNIVERSITY NEWS

Dr. Don M. Griswold

Miss Lois M. Hill, formerly dietitian at the Michael Rees Hospital of Chicago, has been appointed dietitian at the Children's Hospital.

Dr. H. S. Newcomer, pathologist at the Pennsylvania Hospital for the Insane at Philadelphia, spent a few days at the State Psychopathic Hospital looking over the present equipment and methods and studying the plans for the new buildings which will be among the most complete of its kind.

Miss Mary C. Haarer, superintendent of nurses, University Hospital, is going to Arizona for her health. She will probably be away from the University Hospital for several months.

The annual report of the University Hospital is in the hands of the printers and will be available for general distribution in a short time. Persons interested in this report or those interested in hospital work may receive copies by addressing the superintendent.

Dr. H. H. Howard recently presented a paper before the Medical Society at Sioux City, Iowa.

The next convocation and granting of diplomas to graduates of the University will be held on February 8. At this time diplomas will be granted to twenty members of the University Hospital, training school for nurses.

An elaborate mechanism for the most accurate determination of basal metabolism has been installed in the medical service of the University Hospital.

Miss Helen Stewart, director of public health nursing, attended the meeting of the State Tuberculosis Association at Des Moines.

Dr. Carl A. Menninger of Topeka, Kansas, recently made an extended visit to the new State Psychopathic Hospital. Dr. Menninger has made a practice for some years to leave his work for a month each year which time is spent at the leading hospitals doing work along his special lines. In the past he has gone to Eastern institutions but was sufficiently interested in the local work to come to Iowa City this year.

Dr. John J. B. Morgan has recently been appointed on the staff of the University and will spend half of his time with the department of psychology giving courses in pathologic psychology and half time to the psychopathic department in charge of the psychometric work in the hospital. The work will be conducted in the former psychopathic clinic in the out-patient rooms of the Psychopathic Hospital.

The soiree of Sigma Xi, the honorary medical fraternity, was held February 9 at 7:30 in the medical amphitheater of the medical building. This soiree was in charge of the medical group of Sigma Xi members.

WAR DEPARTMENT

Office of the Surgeon General, Washington PERSONNEL DIVISION

From: The Surgeon General of the Army.

To:

Subject: Reorganization of the Reserve Corps.

1. The war demonstrated that the medical profession must be prepared and organized before the emergency if it is to be an effective asset to the nation in time of need. The Medical Reserve Corps is the only institution provided by law by which this can be accomplished. Only by careful and thorough organization can the reserve be ready and become effective without the loss of time and the consequent inefficiency that attends the mobilization of large masses of men, the very process of which demands an organized medical force on the field before the arrival of untrained troops. The mobilization of the man power of the country and its training up to a certain stage of the training schedule is largely a medical problem.

2. Delayed mobilization of medical men; gathering of these without adequate knowledge of their qualifications; prolonged training at camps of instruction; inappropriate and ill-considered assignments to duty; shifts back and forth from post to post and from duty to duty; unjust promotions, inadequate promotion, no promotion—all these have formed the basis of criticism of the tale adventure and the answer is "unpreparedness."

3. Can thirty or forty thousand medical men be again called together suddenly and equipped quickly for the work at hand with any other result? The answer is again—only by preconceived plans—in a word, by organizing.

4. The law creating the Medical Reserve Corps (the first military reserve this country ever had) was enacted in 1908. Legislation since then, chiefly the National Defense Act of 1916, and the Reorganization Act of June 4, 1920, has provided for the creation of a reserve of officers for each department or branch of the military establishment. Within the medical department, we have the medical, dental, veterinary, medical administrative and nurse corps reserve sections, with legal authorization for the establishment of a sanitary section to be composed of scientific and technical personnel, such as psychologists, sanitary engineers, food and nutrition experts, chemists, hospital architects, laboratory and x-ray technicians, public health licentiates who are not graduates in medicine, statisticians, and business and technical men engaged in the production of supplies and appliances used by the medical department. Many of these were commissioned during the war in the sanitary corps which ceases to exist on December 31, 1920.

5. Under the law of June 4th, regulations governing the organization of the Reserve Corps are being drawn up by the war department. These regulations will prescribe rules governing the eligibility, appoint-

ment, promotion, assignment, and training of reserve officers. It is expected that these regulations will be published early in January, 1921.

6. Present status of Medical Reserve Corps: Up until the present time, only those who served as officers during the World War have been eligible for appointment. Appointments were stopped immediately after the passage of the act of June 4th, at which time there were nearly 6,000 in the Medical Section of the Reserve. Appointments were again re-opened on October 4th, but again restricted to those who had service during the World War.

7. A word of explanation regarding appointments heretofore made. Immediately after the armistice, the appointment of former officers in the Reserve was governed by laws passed during the emergency and provided for the appointment of officers in any grade. So far as the records at hand show only three officers have been appointed to a grade more than one grade higher than that held while on duty. The Appropriation Act of July, 1919, limited the appointment to the same grade or one grade higher than that previously held. The Act of June 4, 1920, again changed the law governing the appointment in the whole reserve, irrespective of departments, and limited the appointment to the same grade or a lower grade than that held in service during the World War. It is hoped that it will be understood, therefore, that many of the seeming inequalities of grade now held by reserve officers are the result of legal restrictions. It is also to be noted that the act of June 4th provides for the promotion, under such rules as the president may prescribe of officers of the Reserve who have held commissions for at least one year in the next lower grade. It is the hope of the Surgeon General that this feature of the law will operate to equalize the rank of those who were appointed before the Act of June 4th and those since appointed.

8. Status and responsibility. Liability to call for active duty.* * * It should be understood that as a reserve officer you cannot under the law be called to active duty for more than fifteen days a year without your consent except in time of national emergency expressly declared by Congress.

The sacrifices made by the medical men of the country during the recent war are fully appreciated by the Surgeon General who clearly recognizes the right of each one of them to reorganize and promote his medical practice without interruption except that made necessary by a national emergency or for training preparatory thereto.

It is expected that a comprehensive scheme of training that will interest and benefit all reserve officers will be inaugurated by the War Department. The requirements of such a scheme will be such as will interfere as little as possible with civil pursuits. Those of the reserve of the Medical Department who served during the World War are considered to have had practical training enough to exempt them from much of the usual training of officers. It is hoped that for those who can spare the time the educational

facilities of the Medical Department, especially the Medical Field Service School at Carlisle Barracks, Pennsylvania, will be made available.

9. A reserve corps section has been established in the personnel division of the surgeon general's office. Under the direction of the Surgeon General the reserve officers are being classified according to their record of service, their special qualifications and territorially. Accurate classification is the keynote of organization. With the corps classified, the medical service for any required military force can be blocked out and organized for immediate mobilization with a rational assignment of officers to duty for which they are trained and adapted.

10. Accompanying this letter is a questionnaire calling for information which is vitally necessary to this office for the purpose of accurately classifying reserve officers and promoting the efficiency of the Corps. It is requested that you fill out this form and return it to the Surgeon General in the inclosed franked envelope.

For the Surgeon General:

C. R. REYNOLDS, *

2 incls.

Lieut.-Col. Medical Corps, U. S. Army.

MEDICAL NEWS NOTES

A total of 3,785 physicians were reported registered and practicing in this state on June 30, 1920. Two hundred and ninety-two certificates were issued during the biennial period which ended on June 30, 1920. Of these, 174 were issued upon examination, and 118 by reciprocity from other states. Eight itinerants' licenses were issued during the biennial period by the Iowa state board of health, and forty-seven osteopathic certificates. On June 30, 1920, there were 732 osteopaths registered in Iowa.

On the same date, there were 437 optometrists reported by the state board of health to be in good standing in Iowa. At the end of the biennial period, 811 optometrists were registered in Iowa, but only 437 had paid their annual renewal fee, the others having either discontinued business or allowed their licenses to lapse. Thirty-seven licenses were issued during the biennial period.

Other figures for the biennial period, July 1, 1918 to June 30, 1920, show that there were 1,421 embalmers in good standing with the state board of health. During the period 121 embalmers' licenses were issued upon examination and thirteen by reciprocity. Iowa has reciprocity with the following states upon the basis of an examination only: Illinois, Idaho, Colorado, Nebraska and Wisconsin.

During the biennial period 2,072 disinterment permits were issued.

At the end of the period there were 3,549 nurses registered in this state. Of this number, 659 were granted certificates during the last biennial period, 615 upon examination and forty-four by reciprocity from other states. In nurse reciprocity, Iowa has an arrangement upon the basis of examination only, with the following states: Colorado, Idaho, Illinois,

Indiana, Kansas, Michigan, Minnesota, Montana, Missouri, Nebraska, Ohio, Pennsylvania, South Dakota, Utah, West Virginia, and Wisconsin.

Following his custom of recent years Dr. W. A. Rohlf observed his birthday Wednesday, January 5, by holding his annual clinic at St. Joseph's Mercy Hospital. About fifty doctors were in attendance, coming from all parts of northeastern Iowa, also from Des Moines, Cedar Rapids, Iowa City and Chicago.

As special guests on this occasion there were present Dr. C. S. Chase of Iowa City, Dr. H. T. Walker of Riceville, Dr. T. D. Ford of Plainfield, and Dr. D. S. Bradford of Janesville. These gentlemen are all old practitioners. Dr. Ford and Dr. Bradford have practiced in their respective fields for more than half a century, while Dr. Walker has been at Riceville for thirty-two years, and Dr. Chase is a faculty member of the Iowa State University, previous to which he practiced at Waterloo.

Dr. J. F. Auner of Des Moines officiated as toastmaster, and for this position he is especially qualified, his eloquence and keen wit being always in evidence. Those who responded to toasts were Dr. T. D. Ford, Plainfield; Dr. D. S. Bradford, Janesville; Dr. H. T. Walker, Riceville; Dr. C. S. Chase, Iowa City; Dr. F. A. Ely, Des Moines; Dr. J. E. Brinkman, Waterloo; Dr. M. J. Kennefick, Algona; Dr. Bookbinder, Chicago; Dr. W. L. Bierring, Des Moines, and Dr. M. B. Call of Greene. Dr. Osincup was the last speaker called and responded in a stirring eulogy of the late Dr. H. C. Jungblut of Tripoli. His was undoubtedly the best address of the evening.

After the banquet a number of the guests were entertained at the Rohlf home; others departed on the evening trains for their homes, all feeling indebted to their host who had so royally entertained them, and looking forward to Dr. Rohlf's next birthday anniversary.

SOCIETY PROCEEDINGS

Boone County Medical Society

The Boone County Medical Society were the guests of Drs. Myers, Whitehill and Whitaker at the "Clinic," Boone. Dr. Erskine of Cedar Rapids gave a talk on X-ray and Radium. Greetings from Dr. Evelyn Peo of Santa Anna, California, were read.

Calhoun County Medical Society

The following officers were elected at the last meeting of the Calhoun County Medical Society held at the court house in Rockwell City on December 16: President, Dr. Norton, Rockwell City; vice-president, Dr. O'Connell, Pomeroy; secretary-treasurer, Dr. Beach, Rockwell City. Delegates to annual state convention, Dr. Townsend of Lohrville and Dr. O'Connell of Pomeroy. Committee on public health and state legislation, Dr. Townsend and Dr. O'Con-

nell; counsellors, Dr. Carlesten of Jolley and Dr. Cooper of Rockwell City.

Cass County Medical Society

The annual meeting of the Cass County Medical Society was held at the Masonic hall, December 29. The following officers were elected for the coming year: Dr. R. L. Barnett, president; Dr. Robert M. Cullison, vice-president; Dr. M. F. Stults of Wiota, secretary and treasurer, and Dr. Thomas Byrnes, delegate to the state meeting in May of 1921. Dr. Byrnes read a paper on "Acidosis" and Dr. Stults gave a talk.

Decatur County Medical Society

The Decatur County Medical Society held their annual meeting at Leon, Wednesday evening, December 29. The principal address was by Dr. H. G. Gray of Des Moines, and papers were read by Dr. O. H. Peterson of Lamoni and Dr. Enos Mitchell of Grand River.

The annual election of officers resulted in the election of the following: President, Dr. O. H. Peterson, Lamoni; vice-president, Dr. O. W. Foxworthy, Leon; secretary-treasurer, Dr. C. H. Mitchell, Leon. The next meeting will be held at Leon the latter part of April.

Jasper County Medical Society

At the meeting of the Jasper County Medical Society held at the library, Thursday evening, December 30, the following officers were elected to have charge of affairs for 1921: President, Dr. F. W. Stewart, Colfax; vice-president, Dr. R. W. Wood, Newton; secretary and treasurer, Dr. W. Anspach, Colfax.

Lee County Medical Society

The Lee County Medical Society held its meeting Friday afternoon, January 14, at the Commercial Club rooms in Fort Madison followed by a dinner at the Iowa Cafe. The following Burlington doctors were guests, Dr. H. B. Young, Dr. W. W. Milligan, Dr. George B. Crow, Dr. James S. Cooper and Dr. George H. Steinle.

Dr. O. T. Clark of Keokuk was elected president; F. W. Noble, vice-president; William Rankin of Keokuk, secretary and treasurer. Dr. C. R. Armentrout was elected a delegate to the state convention and Dr. F. M. Fuller is the alternate.

A resolution endorsing the work of rural school nurses of the county was adopted. The copies of the resolution will be sent to the officials of the Red Cross and the Lee county supervisors urging the work be continued.

The business meeting was called to order at three o'clock and following the election papers were read by the following practitioners on the following subjects:

"Tuberculosis of the Central Nervous System," by

Dr. Chas. Louis Mix, Chicago, Illinois.

"Prevention and Management of Breast Infections During Lactation," by Dr. J. S. Cooper, Burlington, Iowa.

"Supra-pubic Prostatectomy in Unfavorable Subjects with Case Reports," by Dr. F. W. Noble, Fort Madison, Iowa.

A banquet followed at six o'clock at the Iowa cafe given by the medical fraternity of Fort Madison. The committee on arrangements for the meeting were Drs. W. H. Newlon and F. W. Noble.

Mahaska County Medical Society

The Mahaska County Medical Society met in annual session at the offices of Dr. P. M. Day, January 10. Officers for the ensuing year were elected as follows: Dr. B. O. Jerrel, president; Dr. J. C. Barlinger, vice-president; Dr. F. A. Gillett, secretary-treasurer.

Annual dues to the state and county societies were collected; three new members were received into the society, and various other matters of importance were discussed.

Mills County Medical Society

The Mills County Medical Society met in Glenwood Thursday, January 14. Four new members were added to the society and officers were elected for the ensuing year. President, Dr. Edgar Christy of Hastings; secretary, Dr. H. C. Yates of Emerson.

Plymouth County Medical Association

The members of the Plymouth County Medical Association held a meeting on Tuesday, January 11, and discussed subjects of interest to the profession. This being the annual meeting, officers were elected for the year. Dr. W. W. Larsen of Le Mars was made president, Dr. George Mattison of Akron, vice-president, and Dr. W. J. Brunner of Akron was selected secretary and treasurer.

Taylor County Medical Society

The Taylor County Medical Society met Tuesday, December 21, in the offices of Dr. D. B. Sollis.

The following doctors were present: Dr. McCall of Clearfield, Dr. McColm of New Market, Dr. L. T. Reed of Gravity, Dr. King of Blockton, Dr. Reed of Clearfield, Dr. J. S. Terrill, Dr. J. W. Beauchamp and Dr. D. B. Sollis of Bedford. The annual election of officers were held and Dr. McCall of Clearfield was elected president with Dr. Reed of Clearfield elected as secretary and treasurer.

WESTERN ELECTROTHERAPEUTIC ASSOCIATION

The third annual meeting of this association will be held at the Little Theatre, Kansas City, under the presidency of Dr. B. B. Grover of Colorado Springs,

April 21-22. The annual dinner will be given at the City Club on Thursday evening, and a number of distinguished speakers will be present including: Surgeon-general Hugh S. Cumming, Dr. A. J. Pacini, chief of the x-ray department U. S. Public Health Service; Dr. H. Bowing, Mayo Clinic; Dr. A. F. Tyler, Omaha; Dr. Wm. Benham Snow, New York City; Dr. Frederick Morse, Boston; Dr. Curran Pope, Louisville; Dr. T. Howard Plank, Chicago; Dr. Omar T. Cruikshank, Pittsburg; Dr. Byron Sprague Price, president American Electrotherapeutic Association, and others.

A three days session of the Western School of Electrotherapy will precede the above meeting, beginning April 18.

Clinics and demonstrations will be held every afternoon. An excellent commercial exhibit, comprising all the leading manufacturers of apparatus, is being arranged and will prove of great interest to visitors.

For information or program address the secretary, Dr. Charles Wood Fassett, 115 East Thirty-first street, Kansas City, Missouri.

PERSONAL MENTION

Dr. and Mrs. Edward E. Krider of Oelwein left Tuesday, December 28 for New York City. Doctor Krider will attend the New York Post Graduate Medical College and the New York Eye and Ear Infirmary for special study in diseases of the eye, ear, nose and throat. They will return about February 1.

Dr. Walter Fiesler of Iowa City was chosen medical examiner for the athletic staff of the University of Iowa, to succeed Jack Watson. Dr. Fiesler will not take over Watson's duties as track coach, but a successor will be appointed before spring. Graduating from the Iowa University medical college last June, Dr. Fiesler has been an intern at the University Hospital. He has made arrangements to drop work as interne, however, and will hold the title "medical examiner of the athletic staff." It will be the duty of the new examiner to make a systematic examination of all athletes for all major and minor sports, and to install a card index system on their condition and capabilities.

The testimony which Jessie L. Maxfield made before the grand jury was false. She appeared before Judge George Wood at court today to contradict it. On her former testimony Dr. F. W. Porterfield was indicted for performing an illegal operation.

Dr. Will Hoffman, formerly of Charles City, is now located at San Antonio, Texas, having entered the medical service of the regular army.

Dr. Roy R. Jones of Iowa City has accepted a position in the government hospital in the Panama Canal Zone.

OBITUARY

Dr. James Martin Rendleman was born October 17, 1837 in Lafayette, Georgia, and died December 25, 1920, at Exira, Iowa. In 1860 he graduated in medicine at the Atlanta, Georgia, Medical College, and the same year was united in marriage to Flora A. Houston. They lived in Atlanta until 1872 when they moved to Exira. In 1883 the family moved to the town of Audubon where they lived until January, 1890, then returned to Exira.

Dr. G. W. Harris, one of the older physicians of the city, died at the home of his son, Dr. Grove W. Harris, 107 West Church street, Marshalltown, of apoplexy, following an illness of four years with diabetes and heart trouble. Dr. Harris gave up his practice five years ago and spent some time in Colorado, returning here a few months ago to live with his son.

George W. Harris was born in Wyoming county, New York, July 4, 1850. He was married at Batavia, New York, in 1875, to Miss Ella L. Burgess. He was graduated from the Cleveland Medical School and Rush Medical College, Chicago, finishing his course in the latter institution in 1886. He practiced for a time in New York state and came to Iowa in 1878, settling at Lamoille. He practiced at the latter place for ten years, coming to this city in 1888.

Dr. Harris is survived by his wife and three children. The latter are Mrs. Harry Vollmer, Chicago and Dr. G. W. Harris and Miss Florence Harris of this city. A son George died in infancy.

MARRIAGES

Dr. Floyd W. Newell and Miss Alice Shea of Ottumwa.

Dr. Raymond W. Stober of Charles City and Miss Lillian Estelle Yager of Riceville.

Dr. Elroy J. Avery, formerly of Maquoketa, now of Rochester, New York, and Miss Harriet Mary Mitchell of Maquoketa.

Joseph Alton Hoegen, Lieutenant, M.C., U. S. to Dr. Adna Thomas McHugh of Monticello at Savannah, Georgia, January 24, 1920.

Dr. Leonard E. Fraser of Bradford, Iowa, to Miss Rebecca Maude Atkinson of Winnipeg, Manitoba, February 15 at Winnipeg.

BOOK REVIEWS

COLLECTED PAPERS OF THE MAYO CLINIC 1919

Rochester, Minnesota, Octavo of 1331 Pages; 490 Illustrations. W. B. Saunders Company. Cloth \$12.00 Net.

This magnificent volume reflects great credit on the editor, Mrs. M. H. Mellish. It also represents a year of intense and patient work for which Mrs.

Mellish is well qualified. The high literary qualifications of the authors of the papers presented at least in one way simplified the work, but the classification of the contributions, the correction of the manuscript and the proof, the examination and the checking up of references entails an amount of patient work that is difficult to estimate. The papers that make up these great volumes must stand from year to year as authoritative expositions of the subjects treated; the great number and variety of topics presented would render careless editing a blemish not to be overlooked. One hundred and nine papers are presented under nine classifications.

The first division relates to the alimentary tract: Dr. T. R. Reeves presents an interesting study to determine, if possible, whether there is any difference in the character of the arteries of the stomach and duodenum, in regions in which ulcers are proved to occur. The conclusion reached is that in view of the anatomic arrangement of the arteries along the lesser curvature of the stomach, and the first inch of the duodenum, are such as to favor thrombosis and hematogenous infections.

Dr. R. D. Carmen presents an important paper on the operability of lesions of the stomach as determined by the stomach by x-ray examinations at a much earlier date, a fact of much importance in malignant disease.

Life insurance companies have become interested in the life expectancy of patients following operations for gastric and duodenal ulcer. Dr. D. C. Balfour has furnished data from 2431 patients operated on between 1906 and 1915 which were utilized by Mr. Arthur Hunter, chief actuary for the New York Life Insurance Company who arrived at some important conclusions, particularly after one year period, and the higher mortality of gastric ulcer as compared with duodenal ulcer, the former being fully twice as great as the latter.

Dr. J. A. H. Magoun presents an important paper on the pelvis of the kidney as a possible source for infection of the blood stream.

Braasch and Carman in a short paper call attention to the difficulties in exact interpretation of roentgenograms in complications, Dr. E. S. Judd in two valuable papers discusses some important points in kidney surgery. Braasch, C. H. Mayo and E. S. Judd consider questions in relation to operations for kidney stones and ureters. Dr. Newton Evans presents a study in relation to seventy-two cases of myomas in a series of 4,000 operations for uterine fibromas.

K. Kawanura in experimental studies of thyroid transplantations arrives at the conclusion "that permanent successful results of the homoplastic transplantations of the gland are as yet not possible." Dr. E. C. Kendall continues his work in relation to the chemistry of the thyroid gland in a series of papers. At the conclusions of these studies Sistrunk takes up the selection of operations.

Passing over a series of important papers on the heart and blood, we come to a discussion by Dr.

(Continued on Advertising Page xvi)



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HEADQUARTERS

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ELIXIR OF ENZYMES is a palatable preparation of the proteolytic and curdling ferments that act in acid medium. It is recommended as an aid to digestion and as a gastric tonic generally.

Elixir of Enzymes is of special service in correcting faulty proteid metabolism which is one of the principal causes of autointoxication.

Elixir of Enzymes is an excellent adjuvant and vehicle for exhibiting iodids, bromids, salicylates and other drugs that disturb the digestive functions. One dram of Elixir Enzymes will carry 46 grains of potassium iodid or 45 grains of sodium salicylate or 17 grains of potassium bromid.

Elixir of Enzymes contains the curdling ferment and may be used for making junket or curds and whey. Add one teaspoonful of the Elixir to half pint of lukewarm milk, stir thoroughly and let stand till cool.

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To exhibit, for instance, 20 grains of potassium iodid three times daily, use one teaspoonful of Elixir of Enzymes, one teaspoonful of the above solution to half pint of lukewarm milk; stir thoroughly and let stand until cool. Take one-third of this quantity as a dose. This junket should be made up fresh every morning.

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BOOK REVIEWS

(Continued from Page 108)

W. J. Mayo on the results of Splenectomy in the Anemias and the final words of Dr. Mayo who states: "The triumph of splenectomy is the cure of hemolytic anemia."

Drs. J. H. Stokes and Helen Brehmers in an analysis of 3,000 unselected histories finds the relative per cent of syphilis in different employments, of railway employers represented by 10.3—Laborers, 6.9; business men, 3.2; farmers, 1.4. The significance of this fact can be appreciated by industrial and railway surgeons.

In the closing section of the book is an address by Dr. W. J. Mayo on the socialization of medicine and of law, which may be read with great profit by students of medical economics who are struggling with badly digested conceptions of the future of medical practice.

It is a difficult undertaking to review within brief limits such a storehouse of valuable knowledge and we are only able to pick out here and there valuable contributions which particularly appeal to us, leaving much untouched that may appeal to other readers as of equal or more value.

A MANUAL OF PATHOLOGY

By Guthrie McConnell, M.D., Associate in Pathology Western Reserve University, Medical School, Cleveland, Ohio. Fourth Edition, Thoroughly Revised; 12 Mo. Volume of 611 Pages, with 18 Illustrations. W. B. Saunders Company 1920, Philadelphia and London. Price Cloth, \$4.50 Net.

The claim for this book is its convenient size and its full and concise presentation of the subject, differing mainly from the larger works on pathology in omitting much of the theoretical discussions which are generally regarded as necessary in treating a subject like this, where absolute certainty cannot be expected, for sometime to come at least.

The book is especially adapted to the needs of the medical student and the practitioner who desires to refresh his knowledge of pathology. We feel that the university trained dentist is so nearly related to us that we can recommend the book to him also.

LABORATORY MANUAL OF THE TECHNIC OF BASAL METABOLIC RATE DETERMINATIONS

By Walter M. Boothby, M.D. and Irene Sandiford, Ph.D., Section on Clinical Metabolism. The Mayo Clinic, Rochester, Minnesota and the Mayo Foundation, University of Minnesota. Octavo Volume of 117 Pages with 11 Tables and Charts of Explanation. Philadelphia and London. W. B. Saunders Company, 1920. Cloth, \$5.00 Net.

This manual presents a brief discussion of the basal metabolism rate, normal standards, clinical calori-

metry, the agreement of direct and indirect calorimetry, and the apparatus used in indirect calorimetry.

The greater part of the book is given over to the technical details for the conduct of basal metabolism observations for the modification of the Tisset gasometer now used by Drs. Boothby and Sandiford. The importance of accurate observations and the precautions necessary therefore are particularly emphasized. While the manual has been prepared primarily for laboratory workers, it will be read by others interested in the technique of indirect methods of measuring basal metabolism.

R. B. G.

CHEMICAL PATHOLOGY

Being a Discussion of General Pathology from the Standpoint of the Chemical Processes Involved. By H. Gideon Wells, Ph. D., M.D., Professor of Pathology in the University of Chicago, and in Rush Medical College, Chicago. Fourth Edition, Revised and Reset, Octavo of 695 Pages. W. B. Saunders and Company 1920. Cloth, \$7.00 Net.

The book before us is the third edition of the four written by Professor Wells on the subject of Chemical Pathology we have examined.

We have to confess that the first edition tried our understanding to an intense degree, but as the years have passed and as the literature on the chemical relations of pathology has increased, we have come to a fuller realization of the importance of the work Dr. Wells has placed in the hands of the profession. The plan of this, the fourth edition, has not changed materially from that of the third edition which was issued about three years ago. Some changes have been made on the "Reactions of Immunity" and a separate chapter on "Anaphylaxis and Allergy."

The chapters from eight to thirteen inclusive are probably the most important to the medical practitioner, which includes the chemistry of the immunity reactions, anaphylaxis or allergy. The chemical means of defense against non-antigenic poisons. Inflammation, the chemistry of growth and repair, and disturbances of circulation and diseases of the blood, we may add chapter 15, retrogression changes, and chapter 24 on diabetes.

In specifically mentioning these several chapters, we do not lose sight of the importance of the preceding chapters, which prepare us for a better understanding of the facts which are based upon them.

The difficulties which confront us in following the author are only the difficulties incident to a knowledge of scientific medicine.

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DONALD MACRAE, JR., M.D.
PRESIDENT
IOWA STATE MEDICAL SOCIETY
1920-1921

The Journal of the Iowa State Medical Society

VOL. XI

DES MOINES, IOWA, APRIL 15, 1921

No. 4

IOWA STATE MEDICAL SOCIETY

SEVENTIETH ANNUAL SESSION DES MOINES

MAY 11, 12 AND 13, 1921

Program

OPENING EXERCISES

Wednesday, May 11

9:00 a. m.

Call to Order by the President—

DONALD MACRAE, JR., M.D., Council Bluffs

Invocation—

RABBI EUGENE MANNHEIMER, Des Moines

Address of Welcome for the City—

HON. H. H. BARTON, Mayor City of Des Moines

Address of Welcome for the Profession—

JAMES W. OSBORN, M.D., Des Moines,
President Polk County Medical Society

Response—

JOHN F. HERRICK, M.D., Ottumwa

SCIENTIFIC PROGRAM

Section on Medicine—

Chairman, ROBERT C. CRUMPTON, M.D., Webster City

Section on Surgery—

Chairman, WILTON W. MCCARTHY, M.D., Des Moines

Wednesday, May 11

9:30 a. m.

1. Colitis—

CHRISTIAN B. LUGINBUHL, M.D., Des Moines, *twenty minutes*
Discussion opened by ELI GRIMES, M.D., Des Moines,
five minutes

2. An Unusual Indication for Cesarean Section—

ALBERT B. DEERING, M.D., Boone, *twenty minutes*
Discussion opened by WILLIAM L. ALLEN, M.D., Davenport,
five minutes

3. The Acute Abdomen from a Surgical Standpoint—

EDWARD F. BEEH, M.D., Fort Dodge, *twenty minutes*
Discussion opened by CHARLES H. MAGEE, M.D., Burlington,
five minutes

4. Address of the Chairman of the Section on
Medicine: Vitamines—

ROBERT C. CRUMPTON, M.D., Webster City, *thirty minutes*

5. Pyelitis—

FREDERICK V. HIBBS, M.D., Carroll, *twenty minutes*
Discussion opened by JENNINGS CRAWFORD, M.D., Cedar
Rapids, *five minutes*

Wednesday, May 11

1:00 p. m.

6. Oration in Medicine—

CAMPBELL P. HOWARD, M.D., Iowa City, *thirty minutes*

Symposium on Focal Infection

7. Otologic and Rhinologic Infections—

LEE WALLACE DEAN, M.D., Iowa City, *twenty minutes*

8. Dental and Maxillary Infections—

CALVIN W. HARNED, M.D., Des Moines, *twenty minutes*

9. Gastro-Intestinal Infections—

MILTON B. GALLOWAY, M.D., Webster City, *twenty minutes*

10. Genito-Urinary Infections—

JOHN MCATEE, M.D., Council Bluffs, *twenty minutes*
Discussion opened by CLARENCE E. VAN EPPS, M.D., Iowa
City

Adjournment

3:30 p. m.

Meeting House of Delegates

Wednesday Evening, May 11

Social Entertainment

Thursday, May 12

9:00 a. m.

11. Fracture of the Lower End of the Radius—

PETER A. BENDIXEN, M.D., Davenport, *twenty minutes*
Discussion opened by ALVA P. STONER, M.D., Des Moines,
five minutes

12. The Interpretation of Laboratory Tests in Diagnosis and Their Application in Treatment—

JOSEPH W. ROWNTREE, M.D., Waterloo, *twenty minutes*
Discussion opened by HENRY ALBERT, M.D., Iowa City,
five minutes

13. Combined Anesthesia—

CHARLES RYAN, M.D., Des Moines, *twenty minutes*
Discussion opened by DAVID C. BROCKMAN, M.D., Ottumwa,
five minutes

14. The Relation of Hospital Standardization to Obstetrics—

MARY L. TINLEY, M.D., Council Bluffs, *twenty minutes*
Discussion opened by WILLIAM R. WHITEIS, M.D., Iowa
City, *five minutes*

15. Oration in Surgery—

WILLIAM H. ROHLF, M.D., Waverly, *thirty minutes*

16. The Educational Phase of Public Health—

JEANNETTE F. THROCKMORTON, M.D., Chariton, *twenty minutes*
Discussion opened by PAUL E. GARDNER, M.D., New Hamp-
ton, *five minutes*

SECURE HOTEL RESERVATIONS EARLY—For Hotels See Advertising Pages IV, V, VI and XI

Thursday, May 12

1:00 p. m.

17. X-Ray—An Asset or a Liability to the General Medical Practice in Iowa?—
FRANK E. SAMPSON, M.D., Creston, *twenty minutes*
Discussion opened by JOHN F. HERRICK, M.D., Ottumwa, *five minutes*
18. Address of the Chairman of the Section on Surgery—
WILTON W. MCCARTHY, M.D., Des Moines, *thirty minutes*
19. Address on Surgery—The Achievements and Limitations of Neurological Surgery—
CHARLES H. FRAZIER, M.D., Philadelphia, *thirty minutes*
20. The Causes of Failure of Operations for Chronic Appendicitis—
CHARLES J. ROWAN, M.D., Iowa City, *twenty minutes*
Discussion opened by OLIVER J. FAY, M.D., Des Moines, *five minutes*
21. The Present Status of Pernicious Anemia—
PHILIP B. McLAUGHLIN, M.D., Sioux City, *twenty minutes*
22. Pernicious Anemia: Sub-Acute Combined Sclerosis—
FRANK J. ROHNER, M.D., Iowa City, *twenty minutes*
Discussion of Papers Nos. 21 and 22 opened by WALTER L. BIERRING, M.D., Des Moines

Thursday Evening

23. President's Address—
DONALD MACRAE, JR., M.D., Council Bluffs
24. Diseases of the Blood-Vessels as Seen in the Eye—
EDWARD JACKSON, M.D., Denver, Colorado
Buffet Luncheon and Smoker following Scientific Program

Friday, May 13

9:00 a. m.

25. Suprapubic Prostatectomy: Technic and After Results—
GEORGE E. DECKER, M.D., Davenport, *twenty minutes*
Discussion opened by BENJAMIN C. EVERALL, M.D., Waterloo, *five minutes*
 26. Luminal in the Treatment of Epilepsy: Preliminary Report—
M. NELSON VOLDENG, M.D., Woodward, *twenty minutes*
Discussion opened by FRANK A. ELY, M.D., Des Moines, *five minutes*
 27. Treatment of Carcinoma of the Cervix Uteri—
JOHN C. ROCKAFELLOW, M.D., Des Moines, *twenty minutes*
Discussion opened by CHARLES S. JAMES, M.D., Centerville, *five minutes*
 28. Address in Medicine—Clinical Study of Fifty Consecutive Cases of Pneumothorax—
WILLIS S. LEMON, M.D., Rochester, Minnesota
 29. Ectopic Gestation as a Vital Subject to the Patient and to the Practitioner—
CORAL R. ARMENTROUT, M.D., Keokuk, *twenty minutes*
Discussion opened by NICHOLAS SCHILLING, M.D., New Hampton, *five minutes*
 30. Surgical Infections of the Pericardium—
MATTHEW U. CHESIRE, M.D., Marshalltown, *twenty minutes*
Discussion opened by ALANSON M. POND, M.D., Dubuque, *five minutes*
- Report of Transactions House of Delegates—
TOM B. THROCKMORTON, M.D., Secretary, Des Moines

OPHTHALMOLOGY, OTOTOLOGY AND RHINO-LARYNGOLOGY

Chairman

Robert M. Lapsley, M.D., Keokuk

Thursday, May 12

9:00 a. m.

Address of Chairman—

ROBERT M. LAPSLEY, M.D., Keokuk

1. Retinal Changes in Cardio-Vascular and Renal Diseases—
JAMES E. REEDER, M.D., Sioux City
2. Tumors Involving the Oral Cavity, Upper Respiratory Passages, and Ears, and Some Observations Following the Use of Radium—
MARGARET ARMSTRONG, M.D., Iowa City
3. Control of Hemorrhage in the Tonsil Operation—
FRED W. BAILEY, M.D., Cedar Rapids
4. Determining Factors in the Care of Sinus Cases—
GORDON F. HARKNESS, M.D., Davenport
5. Nasal Headaches—
FREDK. L. WAHRER, M.D., AND OTIS WOLFE, M.D., Marshalltown
6. Ophthalmology and the Lesser Alcohols—
JAMES M. DOWNING, M.D., Des Moines
7. Acute Perichondritis of Larynx with Report of Case—
FRANK A. WILL, M.D., Des Moines

Edward Jackson, M.D., Denver, Colorado, will address the General Session Thursday Evening on: Diseases of the Blood-Vessels as Seen in the Eye.

HOUSE OF DELEGATES**Wednesday, May 11**

3:30 p. m.

Roll Call
Report of Secretary
Report of Treasurer
Report of Council
Report of Trustees
Report of Standing Committees
Memorials and Communications
New Business
Election of Committee on Nominations

Thursday, May 12

8:00 a. m.

Roll Call
Reading of Minutes
Report of Committees
Unfinished Business
New Business

Friday, May 13

8:00 a. m.

Roll Call
Reading of Minutes
Report of Committee on Nominations
Election
Report of Committees
Unfinished Business
New Business

MEETING PLACES

Headquarters—Hotel Fort Des Moines, Tenth and Walnut Streets
General Meetings—Hotel Fort Des Moines, Ball Room
House of Delegates—Hotel Fort Des Moines, Third Floor
Eye and Ear Section—Hotel Fort Des Moines, Third Floor
Registration and Exhibits—Hotel Fort Des Moines, Mezzanine Floor
Headquarters for Ladies—Hotel Fort Des Moines

Rules for Papers

No paper before the Society shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on the same subject. This does not apply to the addresses and orations.
All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done, it shall not be published.

On arising to discuss a paper, the speaker will please announce his name and address plainly.
Please remember to REGISTER.

ENTERTAINMENT

Wednesday, May 11

Reception Savery III, Three to Five O'Clock, Courtesy of the Chamber of Commerce
Banquet, Hotel Fort Des Moines, Six-thirty; physicians, their wives and guests

Thursday, May 12

Theater Party for the Visiting Ladies at the Orpheum, Two O'Clock, Courtesy of the Chamber of Commerce
Buffet Luncheon and Smoker following Scientific Program

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1920-1921

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T. E. Powers, M.D., Clarinda.....1923

DELEGATES TO A. M. A.

W. B. Small, M.D., Waterloo.....1921
L. W. Dean, M.D., Iowa City.....1922
W. L. Allen, M.D., Davenport.....1922

ALTERNATE DELEGATES

W. W. Bowen, M.D., Fort Dodge.....1921
M. J. Kenefick, M.D., Algona.....1922
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H. B. Jennings, M.D., Council Bluffs.....1922
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SCIENTIFIC WORK

Donald Macrae, Jr., M.D.....Council Bluffs
Tom B. Throckmorton, M.D.....Des Moines
Thos. F. Duhigg, M.D.....Des Moines

PUBLIC POLICY AND LEGISLATION

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B. L. Eiker, M.D.....Leon
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HEALTH AND PUBLIC INSTRUCTION

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Henry Albert, M.D., Iowa City.....1922
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STATE SOCIETY IOWA MEDICAL WOMEN

TWENTY-FOURTH ANNUAL SESSION DES MOINES

Tuesday, May 10

Headquarters
Chamber of Commerce, Savery III

Morning Session

9:00 a. m.

Call to Order by President—

LENA A. BEACH, M.D., Rockwell City

Business Session

Recent Legislation Dealing with the Health of
Women and Children— KATE HARPEL, M.D., Boone

The Care of Out Patients—

JENNIE M. COLEMAN, M.D., Des Moines

President's Address— LENA A. BEACH, M.D., Rockwell City

Committee Reports

Election of Officers

Luncheon

12:00 m.

Harris-Emery Tea Room
Dr. Lena A. Beach, Presiding

Afternoon Session

2:00 p. m.

The Doctor's Responsibility to the Under Nourished
Child—

AMY LOUIS DANIELS, Ph.D., (by invitation), Department
of Nutrition, Child Welfare Research Station, State
University, Iowa City

Nutritional Problems of School Children—

FRED MOORE, M.D., Des Moines (by invitation)

Mental Measurements in Relation to Medicine—

REUEL H. SYLVESTER, Director Health Center, Des Moines
(by invitation)

Observations by a Woman Physician in a State
Hospital for the Insane—

PAULINE M. LEADER, M.D., Clarinda

Committee Reports

Adjournment

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1920-1921

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CHAIRMAN COMMITTEE ON ARRANGEMENTS

ELEANOR HUTCHINSON, M.D. Des Moines

Important Announcement

All women physicians who have not already made their hotel reservations will please do so at once. Reservations may be made direct or by writing Dr. Eleanor Hutchinson, 810 Hippee Building, Des Moines.

THE DES MOINES SESSION

The Seventieth Annual Session of the Iowa State Medical Society will be held in Des Moines, May 11, 12 and 13. It is now just seventy-one years since the institution of the Society, and it is fitting that the three days' meeting be held in Des Moines, a centrally located city, inasmuch as accessibility will no doubt afford an opportunity to many who otherwise might be deterred from attending this important annual medical event.

This issue of the **Journal** contains the Official Program which the Scientific Committee has arranged, and, as the work of the Committee together with the Section Chairmen has been arduous, it is to be hoped that the effort expended will be more than repaid in the pleasure and interest with which, it is trusted, this scientific pabulum will be received. Please take sufficient time to read over the program carefully, and after considering the subject or subjects of most interest individually, come prepared to take an active part in the discussions which are open to all members and guests of the Society.

Following the plan of last year's Session, the Hotel Fort Des Moines has been selected as the general headquarters and meeting place of all the scientific assemblies, the special meeting of the Eye, Ear, Nose and Throat Section, the House of Delegates and the Scientific Exhibits. The ability of having everything with the Session assembled at a central point has contributed, largely in the past, to the success of every meeting where such an arrangement could be consummated. It is to be hoped that the present arrangement will prove of no less value in making the coming Session a success from every point of view.

"And from a time when the memory of man runneth not to the contrary," Commercial and Scientific Exhibits have ever been considered a part of these yearly meetings, and it is with pleasure and pride that attention is thus called to the fact that a limited amount of space has been reserved for exhibits from reputable firms where the members of the Iowa profession may enjoy an opportunity to examine such goods as may appeal to them. Here the physician and the various firms represented through their agents may meet on an entirely mutual plane.

The Social events connected with the Session will be held as usual on the first and second days. The visiting ladies will be tendered a reception at Hotel Savery III from three to five o'clock on Wednesday afternoon. In the evening will be given the annual banquet to the physicians, their wives and guests at Hotel Fort Des Moines, six-thirty o'clock. Through the courtesy of the Chamber of Commerce, there will be a theatre party for the ladies at the Orpheum Theatre, Thursday afternoon, two o'clock.

As far as hotel accommodations are concerned, little difficulty should be encountered this year; but "a word to the wise is sufficient," so secure your reservations early and come to Des Moines prepared to fully enjoy everything connected with the Seventieth Annual Session of the Iowa State Medical Society.

Tom B. Throckmorton, M.D., Secretary.

GROUP DIAGNOSIS AND GROUP THERAPY*

LEWELLYS F. BARKER, M.D.

Professor of Clinical Medicine, Johns Hopkins Medical School,
Baltimore

GROUP WORK AS A PHASE OF PROGRESS

You have invited me to speak to you upon some phase of the progress of clinical medicine. Present day workers in this subject, impressed by the rapidity of change in the conditions under which they work and by the breakneck speed with which advances have lately been made, find it hard to believe that the idea of human Progress could be challenged or that the very idea itself is of recent date. Professor Bury¹ has, however, in a recent volume shown very clearly that it was not until the seventies and eighties of the last century that the idea of Progress became at all general as an article of faith among educated people, some holding it "in the fatalistic form that humanity moves in a desirable direction, whatever men do or may leave undone," others believing "that the future will depend largely on our own conscious efforts, but that there is nothing in the nature of things to disappoint the prospect of steady and indefinite advance." The idea of Progress developed but slowly. It could scarcely be cherished when men entertained the older schemes of the universe in which life on this earth was disparaged or when even among the most intelligent investigators there was no recognition of the immutability of the laws of nature. It was only through the development of modern science, the slow growth of rationalism, and the unceasing struggle for political and religious liberty that the idea of Progress, the conception of the perfectibility of human society, and the hope that this earth, itself, may become "a place fit for reasonable beings to live in" could emerge and gain general acceptance. Since 1914, events of tragic memory have given to the holders of this conception, and of this hope, the rudest of shocks. It is but little wonder that some, in despair, should have reverted to the pessimistic theories of Regress and, like Rousseau, have challenged all optimistic melioristic theories of civilization, or have gone even further and declared that "civilization is the *causa malorum*." One of my friends, however, who maintained his hopefulness through those dreadful years of the war, has made the cheerful comment: "In future times, our period

will be less remembered as that of a 'Great War' than as that of the age of the theory of relativity as expounded by the great Swiss physicist and mathematician, Einstein², and this may prove to be true." Despite calamities, the human intellect goes on, with its task of enlarging knowledge and of improving the conditions of individual and social life.

Medicine, as a science and as an art, has both benefited from and contributed to the prevalence of the idea of Progress. Since 1870, the growth of the medical sciences, preclinical and clinical, has been unprecedented. Thanks to an ever-increasing substructure in the sciences of physics, chemistry, biology, psychology and sociology and to the adoption in the study of disease of the methods and the principles of these sciences, the pure science of medicine has been built up into a great structure, the constituent facts and laws of which are constantly being utilized by workers in applied medical science to the improvement of the medical art. We observe a chain, each link of which is essential. Without the idea of Progress, there could be but little incentive to investigate the laws of nature; without the natural sciences, the pure science of medicine would lack a solid basis; without a pure science of medicine, the applied sciences of diagnosis and therapy would continue floundering in the bogs of empiricism; and without the persistent efforts of enthusiastic applicators of the truths of pure medical science, practitioners of the medical art could make but little improvement. For the welfare of human society it is desirable that each of the several links in this chain shall maintain a strength equal to that of its strongest link. And this equivalence of strength can be kept up only if the supply of forgers for each link be steadily recruited and the workers feel, and live up to, their responsibilities.

Among the newer mechanisms devised by students of the applied science of medicine, none is at the moment more interesting, perhaps, than group diagnosis and group therapy. It is upon this method of organizing clinical work and upon the technique of its execution that I have been invited to speak to you today. The products of applied science are often, at first, but clumsy contrivances, which it is the province of those who work with them gradually to improve upon. This is certainly true of the machinery thus far devised for diagnosis and therapy by groups. It is to be expected, however, that the awkwardness, dangers and difficulties of the instruments now in

*Address in Medicine at the Tri-state District Medical Society of Illinois, Iowa and Wisconsin, at the meeting held in Waterloo, Iowa, October, 1920.

1. Bury, J. B.—The idea of progress; an inquiry into its origin and growth, London, 1920, Macmillan & Co., 377 pp.

2. Harrow (B.) From Newton to Einstein: Changing Conceptions of the Universe. New York, (D. Van Nostrand Co.), 1920, 74 pages.

use will in time, like those of primitive automobiles, aeroplanes, and associations of nations, give place through unremitting thought and diligent practice to less bunglesome devices that will be better adapted to the performance of the required tasks. If my brief presentation of the subject to you, today, should in any way contribute to this end, I shall feel well repaid. The topic is one in which I am personally much interested and I am glad to have the opportunity of discussing it at this meeting of the medical practitioners of three of the greatest states of the Union. The subject chosen is much too large to be dealt with in a short time in all its intricacies and details. With your permission, I shall limit my remarks to a brief statement of what group diagnosis and therapy mean, to some comments upon the changed conditions of medicine that have made them advisable, to a discussion of the principles that underlie them and the methods of organization that have thus far been introduced for utilizing them, and to some remarks upon the functions of group work, and upon the difficulties and dangers that confront it. Despite the objections that may be urged against it, group work in diagnosis and therapy would seem to have come to stay, for it is, I believe, in line with our general ideas of progress.

DEFINITION OF GROUP DIAGNOSIS AND GROUP THERAPY

Succinctly stated, group diagnosis and group therapy mean the systematic application of the principle of division of labor among medical practitioners of different functions (1) to the general diagnostic survey of patients; (2) to the treatment of any maladies from which they may suffer, and (3) to the ordering of the physical, mental and social activities of these patients to the best interests of themselves and of the society in which they live.

An efficient diagnostic and therapeutic group, considered as a whole, thus becomes a kind of glorified general practitioner. For, on the diagnostic side, the group yields to the patient the advantages derivable both from thorough analysis and adequate synthesis; skillful specialists analyze the conditions existent in particular domains (circulatory, respiratory, hæmatopoietic, digestive, urogenital, locomotor, neuropsychiatric, metabolic and endocrine) using any of the methods (physical, chemical, biological, psychical) that can be of help in the accumulation of data, and afterwards, integrators, made competent by training and experience, synthesize the findings into a well-proportioned view of the patient's total

physical, mental and social status, and, on the therapeutic side, through a similar delegation of agencies, the patient is assured of the expert application of any remedial measures (general or special surgery, dentistry, nursing, dietotherapy, pharmacotherapy, immunotherapy, mechanotherapy, hydrotherapy, climatotherapy, electrotherapy, radiotherapy, psychotherapy or occupational therapy) that a comprehensive plan of treatment, based upon the general diagnostic survey, may call for. The group acts as a unit doing what a single general practitioner could do if he possessed all the knowledge and all the skill of each of the group components and could multiply his available time and energy to apply them.

EMERGENCE OF THE GROUP IDEA IN DIAGNOSIS AND THERAPY

The idea of diagnosis and therapy by means of organized groups has developed gradually as a necessary response to the changing conditions of knowledge, technique and civilization. One has only to look back to the state of science, of medicine, and of society in the middle of the last century and to contrast it with that of our time to become conscious of the amazing changes that have taken place. The observational has been happily supplemented by the experimental method. Rough and ready approximation has yielded ever more to precision of measurement. The natural sciences have undergone an unprecedented development. Physics, chemistry, biology, psychology and sociology have blossomed and borne fruit. Matter and energy have become better understood and man, busily engaged in subjecting them to his control, has brought about an industrial revolution.

Medicine, in line with the general advance and seeking better foundations for clinical work, has created, in addition to the older anatomy, physiology and pathology, a whole series of preclinical sciences (embryology and histogenesis, pathological physiology, biological chemistry, pharmacology, bacteriology, immunology, and psychopathology). Through these, the pure science of medicine has accumulated a vast store of facts and has established an important body of principles. The rise of specialism in medicine and surgery has resulted from the efforts of clinicians to apply our newer knowledge and our modern technique to the diagnosis and treatment of disease. Clinical laboratories have been organized in which the fluids and excreta of the diseased body (blood, sputum, stomach juice, duodenal contents, urine, fæces, cerebrospinal fluid, pathological exudates) can be examined by physical, chemical and bi-

ological methods. Medical and surgical specialists have devised, in great variety, instruments suited to the examination of special domains. The cleverly contrived investigation armamentaria of the ophthalmologist, the aurist, the rhinolaryngologist, the hæmatologist, the cardiologist, the gastrologist, the dentist, the urologist, the gynæcologist, the orthopædist, the neuropsychiatrist, the clinical bacteriologist, the clinical chemist and the röntgenologist have become so elaborate that special knowledge and special skill are requisite for their expert application in practice. No single person can, any longer, hope to attain to equal skill in the use of all of the many instruments and procedures of diagnosis. And the same may be said of the complexity of modern therapeutic technique. No general practitioner, no general surgeon, no general internist can any longer, unaided, give to patients the benefits that they can, in the more obscure cases, derive, and have the right to expect, from his efforts when combined with the properly co-ordinated (and subordinated) activities of a group of adequately trained medical and surgical specialists.

The medical profession and the laity, more or less conscious of the markedly altered circumstances, have been making their respective adaptations to these rapid transformations of knowledge and technique.

The representatives of medicine have responded in various ways. Far-seeing medical men have persuaded philanthropists to endow medical teaching, research and custody. Medical education has been compelled to undergo an enormous and very costly expansion in order to keep pace with progress. The medical schools with their teaching laboratories and hospitals are being placed upon a university basis better to supply general instruction for students in the preclinical and the clinical sciences. Post-graduate schools are being equipped for continuation studies in medicine and for the training of specialists. Great research institutions are being developed for the solution of special problems in medicine by original investigators. Private hospitals and sanatoria are undergoing multiplication in order that patients may conveniently secure the best diagnostic and therapeutic services of physicians, surgeons and nurses under a single roof, relieved from the embarrassment and lower efficiency of domiciliary care. And general practitioners, medical and surgical specialists, and diagnostic and therapeutic integrators are discovering the advantages of cooperation as contrasted with isolation and competition and are forming groups of various sorts by which medical practice is con-

ducted to their own greater satisfaction and to the increased benefit of their patients.

These radical changes in medical instruction, research and practice have been accompanied, indeed in no small measure caused by, a change in the attitude of the more intelligent of the laity. The educated layman could not long remain ignorant of the advances in general and medical science, of the importance of differentiation of function and of division of labor in all vocations, or of the superior results that are obtainable in the solution of problems through analysis and synthesis by groups of experts. When the layman found that his family physician had difficulty in solving a medical problem and was dilatory in calling specially trained experts to his aid, he consulted of his own accord, a surgeon or a medical or surgical specialist. The surgeon or specialist thus chosen might luckily happen to be one suited to the needs of the particular case; too often he was not. For some 'specialists' are narrow-minded persons and in blissful ignorance of fields other than their own actually do harm to some of their patients through their efforts *aus einem Punkte zu curieren*. But perplexity was responsible for the layman's floundering; he was simply struggling to find somewhere the relief that the growing reputation of specialism seemed to promise him. Sometimes, such a layman would enter the public ward of a teaching hospital for study, having learned of the all-round examinations made there. But in them, and even in the private wards of teaching hospitals, the work may be conducted by men so enthusiastic over original research in a limited field that they overlook the importance of a general diagnostic survey and neglect it, or if they make it are content with diagnosis alone and fail to institute a desirable and comprehensive therapeutic regimen. And when, later on, complete general diagnostic surveys preparatory to carefully-planned therapy began to be conducted by well-organized groups of private general and special practitioners, the layman warmly welcomed them for they bridged the gap that had halted him. And, recently, he has tended to apply to such groups for a "general overhauling" not only when ill but also from time to time when apparently well, for through education by life insurance companies, by organizations like the Life Extension Institute, and by public health officials, he has glimpsed the significance of prophylactic measures.

The group-idea in medicine is in line, too, with the general tendency toward association and cooperation in modern society. We see the same tendency in other professions (e. g. the law), in

the industries, and in political life. As the peoples grow more democratic, groups replace individuals, and tend to become ever larger and more firmly knit together. Though the "Big Animal" does not disappear, he is less in evidence. The bigger a man is, now-a-days, the less he attempts a splendid isolation, the more he merges his personality in the membership of a group for he knows that, through the subtle interpenetration of the minds of its several members, feats become possible that are beyond the achievement of any isolated magnate.

Clearly, then, group medicine is a logical development. It is the natural consequence of modern conditions. It is the inevitable resultant of the growth of science, the rise of specialism, the increased intelligence of the laity, the general tendency to cooperative association, the prevalence of the democratic spirit, and the recognition of the advantages of group-psychology.

THE ORGANIZATION OF GROUPS AND THEIR FUNCTIONS

It is to the glory of the medical profession that its better members have thought always first of the welfare of their patients and only afterward of their own. In no occupation other than that of medical practice has there been a greater cherishing of the ideal of self-realization in the service of society. Methods of organizing work that are not in conformity with this ideal have no place in the practice of medicine. But it is, above all, because the properly organized group of practitioners offers and achieves a greater service to the public and a higher self-realization for its components than is possible for isolated individuals that this form of systematized diagnostic and therapeutic activity is justified. Loyalty to their patients and the best employment of their own faculties are the essential principles that should govern the conduct of members of a medical group.

Groups for co-operative diagnosis and therapy may be, and have been, organized in any of several different ways. The size and character of the group and the exact method of organization adopted in any given instance depend largely upon the locality concerned, the men that are available and the particular purposes for which the group is formed. The larger the medical center and the greater the number of men engaged in special practice, the easier it is, as a rule, to form a competent and satisfactorily inclusive organic group. Through able and attractive leadership, however, some of the best groups now at work, for example and notably that of the Mayo Clinic,

have been established in small places and have drawn to them large numbers of patients for study and for treatment. The paradigm of group I have in mind is that organized for the conduct of a general diagnostic survey of the patients as a whole and for the prescription and execution of comprehensive therapeutic regimens based upon them. Groups formed for other and more limited purposes doubtless have their place, but I shall not discuss them here.

The steps that have to be taken in the making of a general diagnostic survey, I have described elsewhere.³ They include: (1) the realization of the existence of a diagnostic problem; (2) the collection of data more clearly to define and to locate that problem; (3) the consideration of the facts thus collected in order that, through the use of the scientific imagination, solutions of the problem may suggest themselves to the mind; (4) the testing, for their validity, of the various suggestions that occur to the mind, and the making, when necessary for refutation or corroboration, of further observations and experiments; and finally, (5) the arrival at diagnostic conclusions. These steps involve (1) the taking of a careful anamnesis; (2) the recording of the results of a general physical examination; (3) the arranging, according to the indications of the anamnesis and the general physical examination, (a) certain laboratory tests (b) certain x-ray examinations and (c) certain examinations to be made by specialists in particular domains; (4) the summarizing of all these findings for the integrator; (5) the work of integration and the testing of its results; and (6) the recording of the several conclusions reached in the order of their importance.

In some organizations, the group concerned in these manifold performances is spatially compact (under one roof) and its members are legally all closely related to one another, the relationship being that of partners, of employers and employes, or of constituents of an incorporated body. In other organizations, we see a system of overlapping groups, a leader arranging for sympathetic and cordial cooperation with a whole series of general and special workers in the city in which he works, requesting examinations in a given special domain sometimes by one man, sometimes by another and standing in no closer spatial or legal relationship to each of these special workers than that of one consultant to another. And between the spatially compact, closely knit, and ex-

3. Briefly in an article entitled *The General Diagnostic Survey made by the Internist Co-operating with Groups of Medical and Surgical Specialists*, New York Medical Journal, and more fully in the article entitled *The Rationale of Diagnosis in the Oxford Loose Leaf Medicine*, Vol. 1.

clusive types of group on the one hand and the spatially separated, loosely interwoven, and more inclusive or overlapping types, on the other, various intermediate forms of group-organization have, in many places, been found expedient. The precise form of team-work adopted is less important than the function that is performed. What is essential is that the combined activities of the group members, no matter what form of the group, shall adequately fulfil the group purposes, namely, the making, through analysis and synthesis, of an accurate, comprehensive, properly proportioned, diagnostic survey, conveniently, amicably, quickly and economically, and the planning and, when desired, the executing of an appropriate therapeutic regimen that will secure for the patient all the benefit possible in the present state of medical knowledge and technique.

OBJECTIONS THAT HAVE BEEN MADE TO GROUP-WORK

Notwithstanding the objections to group work that have been expressed by its opponents, those who have engaged in diagnosis and therapy in well-organized groups are so convinced of the advantage of this method of practice that they would be loath to go back to the earlier methods of isolated individual activity. As a matter of fact, purely individual medicine is no longer practicable and no one at present strictly adheres to it. Even those who oppose the systematic organization of groups make use to the group-idea to some extent. Thus, they may have their laboratory tests made for them by others; or they may send their patients to roentgenologists for x-ray examinations. They recognize, too, the advantage of, at least, an occasional consultation with one or more of the specialists who limit their activities to particular domains. The most independent and resourceful of general practitioners can no longer satisfactorily carry out by himself all the tests that may be necessary in the study of an obscure case. Group workers believe that group organization overcomes many of the difficulties and avoids many of the dangers that confront the individual workers in both general and special practice. But there are special impediments and perils incident to the work of groups. Of these, and of the several objections that have been offered group-workers themselves are cognizant, and to a consideration of some of them we may now conveniently turn.

Superfluosity—There are some ultra-conservative physicians who express disapproval of group-work on the ground of its entire superfluosity, maintaining that the older method of in-

dividual practice, with the aid of an occasional consultation, fully suffices for the study and care of their patients. They are, they say, "sufficient unto themselves," and they "do not believe in one doctor having other doctors make his diagnoses for him." Such objectors may go so far as to refuse help from any associate, feeling it their duty not only to take the patient's history, and to make the general physical examination but also to make every laboratory test indicated and every examination in special domains required with their own hands and eyes. Faithfully attached to the rites and opinions that have received the sanction of their fore-runners, they are unwilling to risk the perils that may attend group-work, which they consider a rash innovation.

Not many, perhaps, now adhere to this extreme and obviously untenable position, but there are undoubtedly many physicians who sincerely believe that group-work and general diagnostic surveys of the kind I have referred to are largely superfluous, though they admit that, in certain obscure and especially difficult cases, they may be legitimate or even desirable. The great bulk of private practice, they consider, can, and should, still be carried on by the method of individual practice.

The supporters of group-practice will do well to bear in mind these contentions of the more liberal conservatives. For it would only impede the progress of a good form of clinical work to urge its application where it is either unnecessary or impracticable. It should be freely granted that, in many localities, especially in rural districts, it is at present not feasible; that, in a host of minor ailments, it can be dispensed with; and that, in some contingencies, like these of primary surgical urgency, it must be postponed or, temporarily, rigidly restricted.

Experience in group practice indicates, however, that its proper field is a much larger one than most of the objectors to it recognize. Very often what appears on the surface to be a minor ailment, or an insignificant symptom, turns out, on thorough study, to be the premonitory signal that a serious condition impends, one that, left unrecognized, may soon advance to an unmanageable stage. Very frequently, too, the symptoms of which a patient complains are far less important than signs that are discoverable only by the use of the more inclusive analytical methods of a general diagnostic survey. A nasal catarrh may be very troublesome to a patient who unwittingly conceals a beginning carcinoma of the prostate. An autodiagnostic person may request the re-

moval of his tonsils when his blood-pressure is 270 and his phthalein output is 10.

A neurasthenic may clamor for and secure the performance of a series of major operations when what he needs is general upbuilding and psychotherapy. General diagnostic surveys are often most required when the need for them is least felt. They protect both patient and practitioner and luckily the more intelligent of both groups are becoming ever more aware of their usefulness.

The increasing prevalence of ideas of prophylaxis is now giving an impetus to group-practice and to the occasional making of general diagnostic surveys even of persons who are apparently in good health, as a salutary method of insurance. Many men of large responsibilities in business and in the professions have, of late years adopted the practice of resorting, at more or less regular intervals, to diagnostic groups for a general survey in the expectation of thus increasing and prolonging their health and efficiency. Such men are becoming ever more willing to go to the inconvenience and expense of such examinations; they are eager and grateful for advice that will ward off disease or help to keep them fit. Life insurance examinations and membership in Life Extension Institutes have gone far toward educating men of action to the importance of periodic overhauls and of a hygienically regulated life. Both the laity and the medical profession have been impressed, too, by the revelations made by the examiners of recruits during the recent war. Large numbers of supposedly healthy young men, examined in a single evening by the medical boards (made up of general practitioners and specialists) were found to suffer from corrigible maladies or defects, discoveries that were greatly to the advantage of those wise enough to profit by them. It would seem, then, that for reasons of prophylaxis alone the group method of general diagnosis and therapy is likely to grow in favor. And when we consider all the advantages derivable from group-practice as applied both to recognized illness and to prevention, the argument of superfluousness seems to lose much of its weight.

Cost—It is believed by some patients and by some physicians that the cost of group work is prohibitive.

Its expenditure of time, labor and money for the general diagnostic and therapeutic work that group-practice implies is, they think, out of proportion to the benefits derivable, or is such, they assert, as to make the activities of a group acces-

sible to none but the well-to-do. If these objections were valid and the hindrances irremovable group-practice would be doomed entirely, or seriously restricted in applicability. That they are not valid is demonstrated by the rapid increase of appreciation of the benefits of group-practice by members of all classes, the wealthy, the moderately well-off, and the poor, and the growing numbers from all three classes that are applying to groups for study and for treatment.

The *time* required for a general diagnostic survey by a well-organized group is not so long as many seem to think. In most cases, a period of two or three days will suffice; in some instances, a thorough study may require four or five days; in exceptional instances of very obscure disease, or of metabolic disorders requiring tolerance-testing, a longer period may be necessary. The patients who expect a complete diagnosis of a difficult case in a single day, or between trains, or in an hour intervening between shopping expeditions in a large city or between visits to an exhibition, are growing fewer. Even these will usually find it possible to adjust themselves to the required conditions when the time-exigency of accurate diagnosis is clearly explained to them. Persons living in the place in which the group is at work can easily make appointments that will interfere but little with their vocations, and those coming from a distance can give themselves over wholly to concentrated study if they desire to minimize the time allowance. And when it is borne in mind that a complete survey may, within a few days, satisfactorily solve a diagnostic problem and permit of the immediate institution of the most appropriate therapeutic regime for a patient that, by piece-meal diagnosis might be compelled to flounder for weeks, months, or even years in uncertainty, or in error, of diagnosis and fail through this longer period to receive the best treatment, it will be seen that the expenditure of time required for the group work is not extravagant.

Granting that the time spent is not unreasonable, there are some who feel that much unnecessary inconvenience is suffered by patients who resort to groups for diagnosis and that many tests are made by the physicians of the group that are needless, involving, a waste of *energy* on the part of both patient and group members. This misconception seems to depend mainly upon a lack of understanding on the part of the objectors of the nature and significance of the general diagnostic survey. Doubtless many of the tests made may yield normal results, but often these evidences of

normality of certain structures and functions are of the greatest help in differential diagnosis. The supervisor of the survey should, of course, possess common sense (as well as medical knowledge and experience) and make good use of it when he decides upon the tests to be made in a given case. In one case relatively few, in another relatively many, may be required. He should call for no unnecessary expansion of the study but he should not shrink from requesting reports that may be of real importance in the total consideration of the case. The most careful and conscientious supervisor will occasionally make mistakes in the ordering of tests, sometimes of omission, sometimes of commission, but the greater his ability, knowledge and skill, the fewer of these there should be. For one of the supervisor's aims will be to restrict, as far as is compatible with safety, the expenditure of energy during the study both by the patient and by the staff of examiners.

As to the expenditure of *money* required for group study and group treatment, it will be found, I believe, that the method is, in reality, economical. Though the immediate expense may be considerable, the ultimate saving more than compensates for it. Consider, for example, how a patient with arthritis, insufficiently studied at first, may undergo expensive forms of treatment for weeks, months or years, becoming ever more crippled, whereas a thorough general diagnostic study resulting in the discovery and removal of the focus, or foci, of infection responsible for the arthritis by group study and treatment might have given him prompt relief and have prevented the chronic invalidism! Think, too, of the long undernourished neurasthenics you have known of who have spent large sums over a period of years for a series of surgical operations vaguely undertaken, without sufficient diagnostic consideration, in the hope of relief and who might, had they undergone a complete diagnostic survey by a competent group and then submitted themselves to appropriate therapy, have been restored in the course of a few weeks to comparatively good health! Instances like these, and many others that occur at once to the minds of those familiar with the results of group practice will go far toward nullifying arguments against it based upon the financial expenditure necessitated. Moreover, medical groups, like individual practitioners, make it a point, or should do so, to see to it that patients do not pay fees that involve any real hardship or inconvenience. By various means (blanket-fee arrangements, etc.) the cost of group study and treatment can be brought within the means of all who require it.

Inhumanity—The charge of inhumanity, of heartlessness, and of lack of sympathetic feeling with the patient, has sometimes been made against group practice. One hears the activities of a medical group spoken of as the "department store type" of medical practice; or as a "mere machine" from the "brutality" of which patients shrink. Medical aid, to be effective, these objectors say, must depend largely upon a close personal relationship, and they assume that all personal touch with patients is lost when practitioners cooperate in groups. The results of group work are, however, a sufficient denial of the validity of such objections. Group work to be successful must provide for the personal relationships that are essential. And as a matter of fact it does so, when properly organized and conducted. In therapy, especially, the patient is usually under the close supervision of some single member of the group, and the patient not only benefits from the close personal relationship with this member but also enjoys the confidence that the group as a whole has inspired in the accuracy and completeness of his study and in the comprehensive regimen planned for him. Recognition of the possible evils of mechanism and provision against them are two of the functions of the organizers of groups.

Cliquism—An important objection to group practice, and one not to be blinked, is the danger of cliquism. There is nothing, perhaps, more conducive to bad feeling in the profession than the belief that coteries of physicians have set themselves up as superior and exclusive associations that try to monopolize practice. Even when groups are composed of competent, sincere, well-bred, and fair dealing members, they may excite the envy or the resentment of other groups or of individual practitioners. Many consultants decline membership in groups fearing that group membership may lessen the wide and cordial relations that they have established.

The method of organization by over-lapping groups, already referred to, the cultivation of modesty, sincerity and absolute fairness to physicians outside the group by all the members of the group, the willingness, on request, to adopt as a part of the group study the reports of any competent specialist who is not directly associated with the group, and unselfishness in the distribution of the patients for therapy after a general study has been made, will go far towards preventing and overcoming antagonism. New conditions require new adaptations of ethical codes; but good will on the part of each member of a group to the profession as a whole and honest in-

tention and effort in serving the best interests of patients should facilitate the necessary adjustments. In any case, the evils of cliquism must be avoided and medical groups should be ever on the alert to discountenance them.

Commercialism—Finally, the criticism that diagnostic and therapeutic groups tend to commercialize medicine, to turn it from a profession into a business, merits comment. It has been intimated that the very organization that group medicine demands—its associations, partnerships and incorporations, its staff of secretaries, stenographers and bookkeepers, its efficiency mechanisms, its systematized financial arrangements—imports into medicine a commercial spirit that was unknown to individual practice. Even the good faith of the group has sometimes been doubted, the charge being made that the well-to-do patient was being exploited—sent on a merry-go-round of numerous and superfluous examinations merely in order that the fees to be collected might be multiplied! Or, again, it has been alleged that the public is sometimes deceived as to the constitution of a group; led to expect the cooperative activity of experts, the patients, in reality, have found themselves in the hands of mediocre examiners and of pseudo-experts in specialistic treatment.

The relationship of the younger men and of the men of growing reputation to the older and better known members of a group, too, has been questioned, with the oblique hint that the former were often unfairly made use of to advance the private interests of the latter. That abuses of group practice sometimes exist, medical men being human, and human nature being what it is, I have no doubt. But that the zeal for group methods of work has, in general, been instigated by sordid motives of interest can scarcely be believed by anyone who is at all familiar with the conditions that obtain in modern medicine or with the personnel of the groups now at work. The medical profession should not despise the methods that have been devised by good business men. It is no longer "good business" in the commercial world to be dishonest, to deceive the customer, to disease him or to give to him less than is received from him. The "business methods" of physicians have been notoriously deplorable. The lack of system in their work, the loose organization of their offices, the irresponsibility of their appointments, the primitiveness of their accounting (at least before the advent of the income tax), and the lamblike innocence in the disposition of their savings, have been an opprobrium to the profes-

sion. If the exigencies of group practice compel the adoption of better "business" methods than those that have hitherto prevailed among medical practitioners, it will be matter for congratulation rather than for criticism. Moreover, in economic life, evils are prone, in an astonishing way, to defeat the objects of their perpetrators. Any temporary success derived from over-shrewdness, craftiness, extortion, or unfairness is likely to be followed by failure, loss of reputation and disgrace. For this reason alone, and wholly aside from the high ethical standards that guide the conduct of most medical men, there need, I think, be little fear that group medicine will foster meanness or baseness in its adherents. On the contrary, it would seem probable that, through the imagination and the intellect of group-organizers, the practice of medicine will be raised to a higher and even more honorable level.

CONCLUSION

The results of my analysis of group diagnosis and group therapy are seen then to be, on the whole, favorable to these methods. Group medicine may be regarded as the latest phase of progress in practical clinical work. It is an outcome, as I have shown, of the growth of science, of the principle of division of labor, of the rise of specialism and of certain other factors. The general diagnostic survey, comprehensively, accurately, quickly, proportionally and economically conducted can be of great advantage to persons submitting to it, and therapy, too, can be carried out better through the co-ordinated activities of a group than by isolated practitioners. The arguments against group practice on the grounds of superfluousness, cost, inhumanity, cliquism, and commercialism are seen, on close scrutiny, to lose much of their cogency though they indicate difficulties and dangers against which group workers should be on guard. Now, as always, the the profession and the public should welcome modifications of medical procedure that make practice more rational, precise and efficient. Medical practice even at its best can not wholly take away the appetite of people for charlatanism and for superstition. We smile, sometimes, at the age when the Delphic oracle was consulted, but let us not forget that even today the ouija board is much in evidence and that a distinguished physicist relies upon spirit messages from his deceased son. We look back with amazement to the time of disinterment of the remains of St. Stephen when an "odor like that of Paradise was smelt, which instantly cured the

various diseases of seventy-three of the assistants," but we pass over lightly the "spiritual healer" of our own day who promises the complete cure of all diseases, even cancer, to those of sufficient faith! But as medical science grows and physicians become more skillful and better organized the people will become ever less susceptible to the delusions of obscurantism, and among the agencies contributing to this desirable end, group medicine may also find a place.

DEMONSTRATION IN THE USE OF THE THOMAS SPLINT AND BALKAN FRAME*

C. E. RUTH, M.D., Des Moines

I do not expect to present to you anything strikingly new. The war has emphasized merely, the importance of old principles that many of us have used for years.

The speed possible in the application of the Thomas Splint gives it special value in all cases of fracture or other severe injury, requiring fixation of the arm or leg for transportation purposes to the place of permanent treatment.

The first thing of importance, as I take it, in the use of the Thomas Splint, is its adaptation to the individual under treatment, as the splints must be kept in stock and almost never perfectly fit. However, by using a little mechanical skill and care they may be made to fit sufficiently well for transportation purposes in all cases. But if a very simple means is neglected, in the utilization of the Thomas Splint, which I will illustrate in a

This is applicable to either side and can be fitted to either a small or rather large man. As manufactured, this ring is the part that seldom fits and when one undertakes to get traction, the ring being a little too large, instead of having the pres-



FIGURE 1. Thomas Leg Splint.

sure on the tuberosity of the ischium, it will very likely, be applied to the pubes, which may be very painful and annoying to the patient, and, if the pressure is long continued, damaging to a considerable degree.

This difficulty is overcome in a very simple manner. In applying this splint it is seen to have a ring much too large. We feel for the tuberosity of the ischium and make sure that the ring is upon it and the splint otherwise in proper position. A coat, pillow, or any similar thing which may be used as a pad, is then placed in front, between the ring and the patient, so as to take up all the slack and hold the ring forward so that it cannot slip over the tuberosity. A large splint, so adjusted, with proper traction on the distal part,



FIGURE 2. Thomas Leg Splint applied as an emergency dressing for transportation. Pad under anterior part of too large ring to hold posterior part of ring in contact with tuberosity of the ischium.

moment, the surgeon will fail to secure the maximum of benefit during transportation, the patient will suffer unnecessarily and the method will not be satisfactory in the mind of the surgeon or patient.

The application of the splint to the individual case implies the proper adjustment of the ring.

can be made to give as safe and satisfactory support for transportation purposes as one that fits perfectly. If, in place of a full ring, we had instead, a hinged half ring, the splint could be applied to either side and with a strap or bandage the front part of the ring could be instantly completed and fitted without any adjustment whatever, except sufficient tightening of the strap or bandage.

*Presented at the Sixty-Ninth Annual Session, Iowa State Medical Society, May 12, 13, 14, 1920, Des Moines, Iowa.

In leg fractures the shoe is left on, whenever possible, because safer traction can be made over the shoe with the clove hitch spica. If we use gauze spica material for the clove hitch, it must be placed as low as possible, so that it will not seriously interfere with the circulation for the number of hours it will be applied.

Support for the back part of the limb is put on quickly with a wide bandage by passing over the side bars behind the leg and thigh and from side to side. Extension may now be applied immediately with the Spanish windlass, the side bars sprung in or out as required and sufficient padding placed between them and the limb, or the supporting bandage and the limb, to secure adequate immobilization.

These patients are, of course, in the horizontal position, and if the preparation is done with reasonable care, they will stand transportation over considerable distances and sustain no additional damage during several hours.

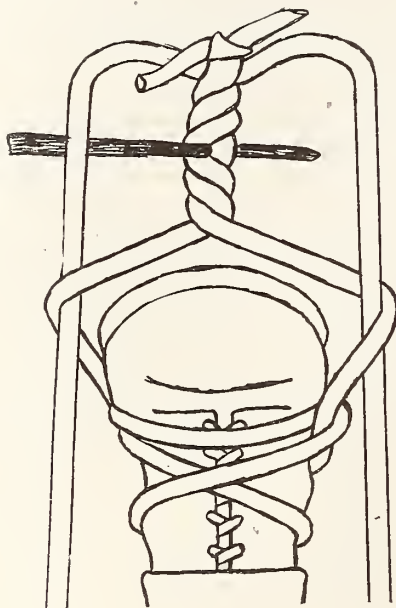


FIGURE 3. Collins Hitch applied over shoe.

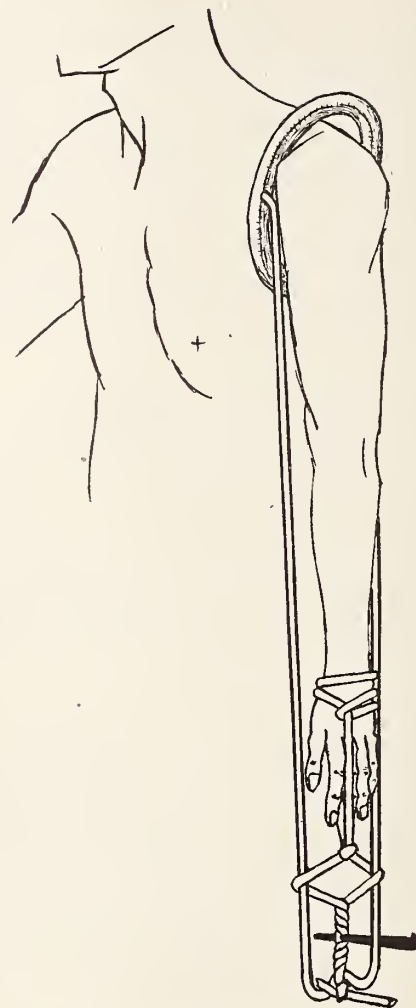


FIGURE 4. Thomas Arm Splint adapted to foot or stretcher transportation by bending rods close to ring. Arm-pit padding, board splints which are sometimes advisable, padding under Collins Hitch and bandages not shown.

This same appliance and principle can be used in the arm, but, as there is no shoe here for partial protection, the clove hitch should be applied as low as possible around the wrist, which should be heavily padded on the palmer and dorsal surfaces to avoid interference with the circulation through the radial and ulnar arteries.

This method of treatment is applicable to all cases for transportation purposes and is also suitable for the permanent treatment of many cases of fracture of arm or leg. It is never suitable for

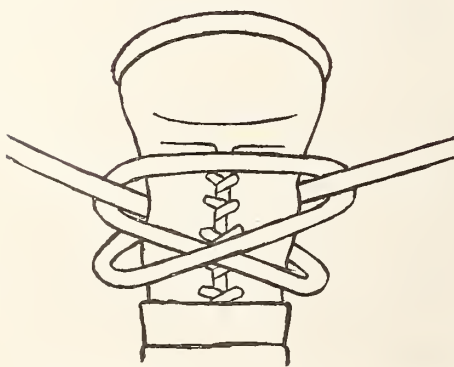


FIGURE 5. Proper application of Caliper Points and line of traction for oblique fracture of lower end of femur.

fractures of the neck of the femur, fracture through the trochanters or immediately below the lesser trochanter because it is impossible to secure permanent adjustment and fixation of the fragments by this means either with or without discomfort to the patient.

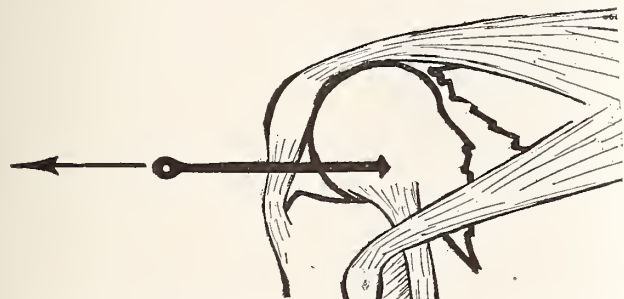


FIGURE 6. Improper position for insertion of Caliper Points in oblique fracture of lower end of femur.

In fractures near the lower extremity of the femoral shaft it is not possible to obtain adjustment and fixation of the fragments for permanent treatment by this or any other method which applies traction below the knee. This is due to the action of the gastrocnemius and plantaris which produce and maintain posterior displacement of the proximal end of the distal fragment into the popliteal space. Traction upon the leg will only increase the displacement. These cases can be successfully treated only by caliper traction on the condyle with the leg flexed. The points of the calipers should engage the front part of the condyle, never the back part, for traction on the latter aids the displacing action of the muscles instead of opposing it as does traction on the upper part.

Many forms of the Balkan frame are in use. The usual form has four uprights, two stringers,

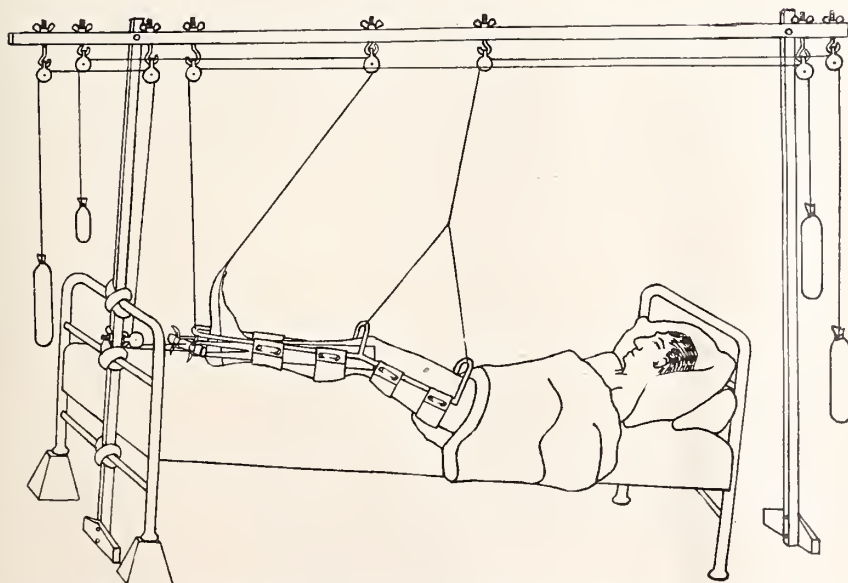


FIGURE 7. Balkan Frame used with a Hodgkins Splint in the treatment of a fracture below the trochanters and above the junction of the middle and lower third of the femur.

and usually two or more long and short cross pieces. The long cross pieces are usually used to adjust oblique or lateral traction.

The frame we have here has only two uprights with a T-piece attached at the floor end and one connecting stringer. The T shaped floor pieces serve to keep the frame upright when we desire to leave one end unattached to the bed, as in this case, that it may be swung to one side or the other for the adjustment of oblique or lateral traction. The frame is adjustable to different lengths and heights.

The essentials of this frame can be constructed and adapted to any bed in a few moments wherever hammer, saw, boards and nails are available. If one is to improvise a frame, the first thing is to decide how one wants to swing the limb, where one needs traction and in what direction. It is quite easy then to build the frame to suit.

In this case one can very quickly adjust the splint to the leg and thigh, arrange the pulleys for the proper angle of pull and soon have suitable elevation of the limb with horizontal or other traction as the case may require.

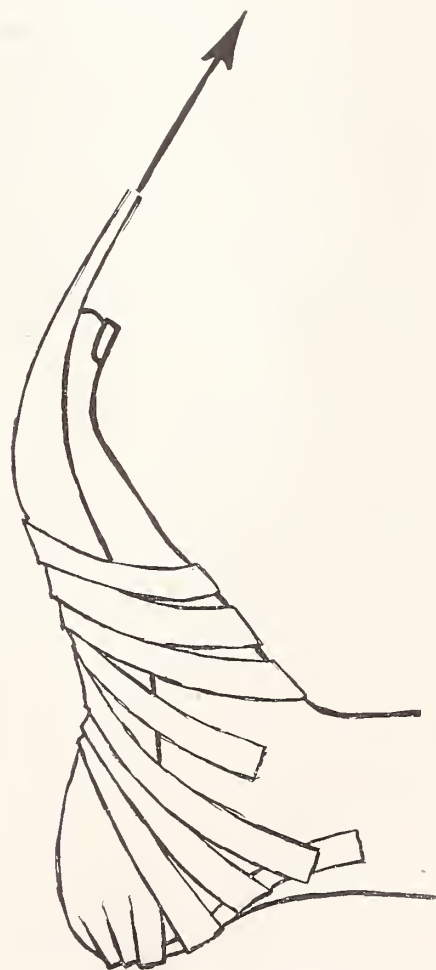


FIGURE 8. Method of applying adhesive plaster and traction line best adapted to prevent extension of foot with consequent evil results likely to occur from prolonged treatment. Retention bandages not shown.

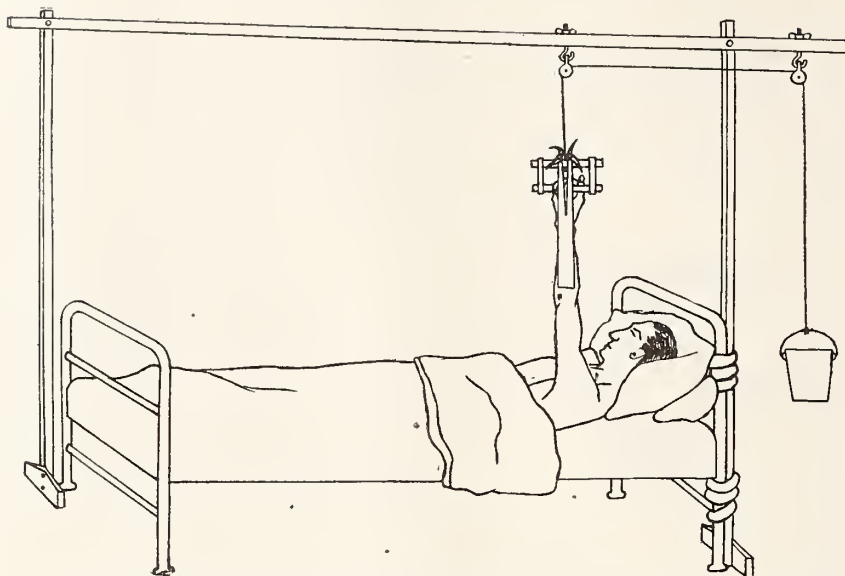


FIGURE 9. Balkan Frame as applied to a fracture of the humerus. Board splints, padding and bandages not shown.

To avoid the annoyance from extension of the foot, with partial ankylosis of the ankle and sometimes permanent shortening of the tendo achilles, adhesive is applied to the sole of the foot, sides and heel, to which extension of three or four pounds is attached in such direction as to maintain the foot at right angles to the leg.

In many illustrations one sees traction weights hung at odd points all over the frame. Traction weights should always be carried outside the frame at the sides or the ends of the bed, or at least to clear the bed and all other parts of the apparatus. These weights sometimes become unfastened, ropes break, pulleys come loose, all to the imminent danger of the success of the treatment.

Reduction obtained and traction once applied it should thereafter be continuous.

Two or more pulleys can be used to advantage at times on a single traction cord to accommodate the traction line to the extension required. In this case, which illustrates an oblique fracture of the lower end of the humerus with a tendency to

overriding of the fragments, it is convenient to use two pulleys, which arrangement I have used for many years and with which one is able to maintain traction that is adequate and continuous.

If the patient has a fracture of the lower end of the humerus, his confinement is not very close. He may lie, sit up in bed or be out in a chair. If the weights and traction lines are properly adjusted the fragments will not be disturbed nor will he have severe pain. This weight will do duty day and night and never let go, but the surgeon must instruct those in attendance that in his absence the traction must never be discontinued for an instant until complete union is obtained.

Fracture through the narrow part of the neck of the femur should always be treated in abduction, with the upright for the foot or lateral bar placed far enough beyond the edge of the bed to give the required abduction, while the lateral traction is arranged in the manner which I have repeatedly demonstrated for thirty years. In fractures through the trochanters there should never be abduction.

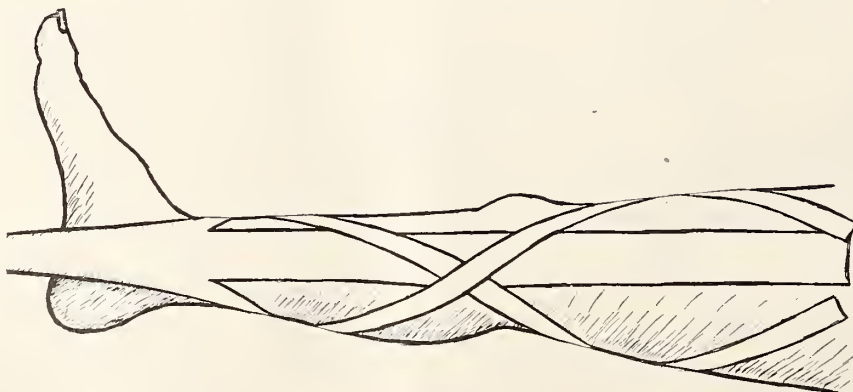


FIGURE 10. Proper method of applying adhesive to leg for heavy traction.

When using heavy and continuous traction upon the leg for a long time, it is important that every care be taken to secure the maximum of adhesive surface contact with the skin and avoid any folds or wrinkles.

I prefer to use an adhesive four or five inches wide on either side of the leg, torn into three strips, except at the ankle, the outer ones an inch wide, the inner three inches wide. The wide central strips extend as far as possible upward on the inner and outer sides, preferably beyond the middle of the thigh in all cases of fracture of the femoral neck, the marginal strips one inch in width being made to extend upward from the ankle in a spiral course as high as the broad center strips. The narrow spiral strips must not pass over the front of the knee nor produce constriction by too sharp turns. A roller bandage is applied over all, firmly enough to secure close contact of the adhesive with the skin and to prevent the plaster pulling away from the skin at the ankle.

With this apparatus applied in the case of fracture of the shaft of the femur or the leg, the patient can move freely enough about the bed to add greatly to his comfort during the entire period of traction and suspension. This movement will not cause pain or any disturbance of the fracture. The apparatus eliminates all unnecessary weight and pull upon the heel while maintaining proper position of the foot.

There is no plan of treatment that causes as little discomfort to the patient, when properly adjusted, as the utilization of the Balkan frame and these methods of suspension and traction, nor can any other method equal the results obtained.

Discussion

Dr. J. F. Herrick, Ottumwa—This matter of fractures of the long bones is one of very great importance. Probably the average physician doing general work is caused more grief and anxiety in caring for this class of patients than in most of his other work, and I think the few simple principles that have been outlined here today, if kept in mind, will obviate a lot of that annoyance. The first thing is the principle of extension. There is no question but that if you have proper extension in a fracture of any long bone, you have accomplished a great part of the treatment. There are two objects in applying the Thomas splint: One is extension and the other is immobilization. They are part and parcel of the same process. If you have extension you have accomplished a great deal of the immobilization. The first thing, then, is extension, and you can very readily understand how you get apposition. For instance, if you have fracture of a bone wrapped up in soft tissue, when the muscles act the ends of the bone are drawn together and overlap. If you apply extension you bring them

down, and if that extension is perfect and complete you cannot have anything but pretty close apposition in spite of all you do unless there is some projection on the ends of the fragments that do not allow them to come together. In any case you get them very nearly in position. If you do not get extension you have shortening, so the principle of extension is absolutely fundamental in the treatment of fractures of the long bones. This whole discussion is an advocacy of the principle of extension. By means of the Thomas splint, you get extension by drawing the leg or arm out. However, I do feel that the pulley with the Balkan frame or some such combination (and I think the Balkan frame is the best thing of the kind that has been devised), gives a better method of extension and makes it easy to accomplish reduction and bring the ends of the fragments together. I have nothing to say with regard to the apparatus demonstrated by Dr. Ruth, because it seems to me a very satisfactory one and applicable to the purpose. The question of having the extension applied properly to overcome the deformities that are produced by the muscles is very important. The greatest failures that we have, are caused by not having the direction of our extension correct. What the essayist has said with reference to fracture of the lower end of the femur is, I believe, perfectly correct. It is one of the most difficult fractures to keep in good position because of the tendency of the upper part of the lower fragment to tip downward and backward. It must be brought down with a sharp pull. I have seen some very bad results from keeping a fracture up on an angle, in the belief that eventually one would secure a good union, the deformity was very great. Sometimes there is non-union, compelling an open operation. With proper extension, the calipers applied to the condyles, you can overcome the deformity. There is, then, only one word I would have to say, and that is that the principle of extension is absolutely fundamental in the treatment of fractures of long bones, and it is a question of intelligent application of the principle.

Dr. William Jepson, Sioux City—I wish to support the statement made by Dr. Herrick to the effect that there is no class of work our profession is called upon to render that at least seemingly to the public is more unsatisfactory than that rendered in the care of fractures. Therefore, it being unsatisfactory, this is the class of work that calls us into the courts to defend our procedure, and in consequence of this fact it is a class of work that is oftentimes a source of unhappiness. In support of this statement I would simply call the attention of the members of the Society to the report of the chairman of your medico-legal committee, read last evening before the House of Delegates. While I do not remember the exact figures, they are to the effect that fractures of the femur occupy first place, representing 35 out of 147 cases in which suits have been brought; fractures of the tibia and fibula form, I believe (something like 18 to 20 per cent of the whole. In other words, ap-

proximately one-third of the suits for malpractice have been brought in consequence of the fact that in cases of fracture the recipients of our services have not been satisfied with them. Hence, any plan of treatment that will tend to obviate these sad results must be welcomed by us. Of the many services that the war has rendered to our profession, the least of these is not that of pointing out to us the fact that with the Thomas splint, properly applied, fractures of the femur can be treated very satisfactorily and without many of the sad results that have come to us in the past. In this connection I would call attention to the report of Dr. Jones of London, who had charge of the British Medical Service in the matter of treatment of fractures, which was to the effect that but a very small per cent of the cases were incapacitated either through shortening or malformation or actual rotation, and it is one of those conditions that has usually brought us to grief. Therefore while this is not the only way that fractures of the femur may be treated, if we would learn this plan at least and learn it well, we would thereby obviate many sad results. Dr. Herrick has pointed out why—we have means of readily producing extension and counter extension. You may not always be able to drag around with you through the country the Thomas splint. But most of you have an automobile, you have a pair of pliers, nearly every farmer has wire, and you can take wire and twist it up, forming the upper and the lower ring, and make the lateral bars to practically fit any patient. If you will then wrap it as Dr. Ruth has done here, you can make a very good Thomas splint. If some of you do not happen to have the facilities for this, do not forget that the short or long Liston splint is the same in principle minus the internal bar, at least as regards transportation of the patient.

Dr. W. B. Willey, Woodburn—It has always been a question with me as to how much weight to put on the extension in these cases. Last winter I treated a compound fracture at the middle of the femur in a boy of nine years, and in order to effect reduction I had to cut down on it, following which there was overlapping of the upper fragment and it was impossible to put sufficient extension on that leg to bring it down. A strong man could not put sufficient traction on the leg to bring the two fragments in apposition. It was an oblique fracture, and the upper fragment, which came out through the skin, it was impossible to pull down even and to get the right length of the leg. I put extension on the limb and kept the patient in bed for four weeks, the wound healed without any infection and the boy apparently made nice recovery. I let him up on crutches, and one day his crutch became stuck in the mud and re-fracture occurred just from the fall. I again reduced the fracture and kept him in bed for another four weeks, and, although there was less than one-half inch shortening, I wanted to know whether there was bony or fibrous union, therefore six weeks after the accident I again x-rayed the case with Dr. Burcham

of Des Moines and found that complete bony union had taken place. I have always wondered how much weight we might put on these cases, and would like to have some member elucidate this point.

Dr. D. S. Fairchild, Clinton—I think what Dr. Jepson said was quite to the point in regard to surgeons adopting some particular form of treatment and sticking to it and studying the results obtained by it. In something like fifty suits for malpractice in cases of fracture I have had occasion to inquire into the reasons why the plaintiff sued the doctor. We have been obliged to inquire into all the facts in order to ascertain why certain results were as found. And it occurred to me that it was largely because the surgeon did not adopt a special plan of treatment and work it out so that he might understand it, and therefore I believe that what Dr. Jepson has said is entirely to the point. Very early in my practice I fell under the teachings of Dr. Hodgens of St. Louis, who introduced the Hodgens splint, and I have ever since used it very consistently with most satisfactory results. It is not difficult, as the essayist has stated, for the doctor to have his frame, he has an automobile and can carry the frame and the Hodgens or the Thomas splint with him. If he has some sort of apparatus of that kind at hand, even if it does burden his automobile a little, he will have something that is definite and that will hold. It so many times happens that the doctor extemporizes some sort of arrangement that does not work well, and continues it to the end. Not infrequently it is because the extension has not been sufficiently thorough and the doctor has not taken into account how long it takes a callus to become hard enough to support the weight of the body that he gets shortening. We have had a number of cases of fracture of the femur with three or four inches shortening which the doctor said did not exist at the time he gave over the case, and it was because he did not take into account the slowness of formation of the callus, in some forms of fracture particularly, and with all the weight of the body thrown on the limb it began to shorten on account of softened callus. Therefore the doctor who has to deal with fractures should equip himself with suitable means of treatment. If he has a frame like this and a Hodgens splint or a Thomas splint, he should be able to take it with him, there is no difficulty about it. The surgeon does not care to do a laparotomy or gall-stone operation unless he can have good environment and the proper equipment to do it with. And so in dealing with this particular condition, if he had the proper things to do with he would not have so much trouble.

Dr. Ruth—I am greatly obliged to the members who have taken part in the discussion, for the kindly treatment accorded and the statements they have made in amplification of the subject. Particularly was I glad to hear Dr. Fairchild speak of the possibility of shortening resulting from too early use or bearing of weight upon a recently fractured bone. Even when bony union has been secured, if weight

is put on the limb too soon the union will yield. In the neck of the femur it will cause shortening, usually by a change in the angle of the neck with the shaft. I have had two cases of fracture of the neck of the femur in which union was secured with an almost perfect result as to position. Shortening in one case was not demonstrable. In the other it was not more than one-quarter inch. Contrary to my directions they began walking in three or four months, with the result that there was yielding with shortening of one inch whereas the maximum on discharge was but one-quarter inch. Yielding of the femur and leg bones from too early use of the limbs is more frequent than in the bones of the arm and forearm due to the body weight. I have made the statement many times that union could be secured in case of fracture of the neck of the femur in four weeks and I believe it fully, for I have had reports of more than three hundred cases with no failures. However, I have found it safer to keep the patient in bed eight weeks with enough weight, after union has taken place, to maintain considerable restraining influence while massage and passive motion is maintained cautiously every day. Recently I saw a case treated by the method I advocate, in which bony union was not secured. One failure in three hundred would scarcely call for marked reduction of faith in the method. The amount of weight required for traction purposes is always that which is necessary to overcome deformity. In some cases of fracture of the thigh or the neck of the femur, a weight of thirty to fifty pounds may be required for the first few days. If this heavy traction is evenly distributed over a large area it will not hurt the patient or irritate the skin and the result will be satisfactory provided the surgeon in dressing the case does not do the foolish thing you all have seen, viz: lift up the weight and set it on a table or chair and thus undo whatever good his treatment had accomplished. Please do not do that. For if your traction is needed at all, it is needed every moment of the time from the moment that the traction is first applied, and until consolidation of the fractured bones is completed. After the exhaustion of the muscles from the traction indicates that it may be safely done, the longitudinal pull may be reduced. In cases of fracture of the neck of the femur, when union has been secured as demonstrated by the patient's ability to freely rotate the leg and thigh outward and inward, the lateral traction may be discontinued.

MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH

Dr. Leonard G. Rowntree, professor of medicine in the medical school of the University and Dr. Reginald Fitz, associate in medicine of the Massachusetts General Hospital, have become members of the staff of the Mayo Foundation for Medical Education and Research, Rochester, Minnesota, for the purpose of developing further research in internal medicine.

LOCAL MEDICAL SOCIETIES

D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

In almost every instance the earlier records of local medical societies have been lost but it was our good fortune in 1875 to secure from the recollections of early physicians then living and from records still preserved, sufficient data to form a rather complete record of many of the earlier local medical societies.

The first organizations were in most instances short lived because of the character of their membership, nearly one-half of the physicians practicing in Iowa in 1850 were not medical graduates, some of them had never attended a regular medical college, their equipment was a service in a hospital as a hospital steward or as an assistant to a surgeon during the Civil War. The men of the latter class were not familiar with any code of ethics save a code that would bring practice and were disturbing elements, nevertheless a liberal spirit on the part of the better class of physicians led to the belief that society fellowship would inspire better feeling and to possible higher qualifications. This was true in many instances for some uneducated practitioners sought to improve themselves by following the example of the qualified members and not infrequently attending medical schools which were willing to receive them.

After the failure of this first medical society organization reorganization followed in a few years with a more carefully selected membership and in some instances several reorganizations followed with progressively better results.

When the twenty-five Iowa pioneer practitioners of medicine gathered in Burlington, Iowa, June 19, 1850, for the purpose of organizing a state medical society, it was in response to a firm belief in the minds of a few broadminded physicians with a view to the future, that organized medicine was the only means of progress and to higher educational standards on the part of the profession and greater benefits to the state and the people generally. Money standards were not altogether the standard of success in that day and to the great credit of the profession, it has never been so even in these latter days of money insanity.

It soon became apparent that formal annual meetings of state societies would not keep alive the spirit of organization, and that informal meetings of nearby physicians at frequent intervals was essential to maintain the larger interest in the state medical society. Another feature of importance was the social influence of the gathering

of neighboring physicians, establishing more friendly and more sympathetic relations, which would not only advance the interests of the physicians themselves, but the interests of the people of the communities, which were so dependent on the medical profession in time of need.

It was this feeling of common welfare that the physicians of Keokuk under the lead of Dr. John F. Sanford met at Dr. Bond's office in October, 1850, to form the first local medical society in Iowa. The first record of this Society appears in the first volume of the Iowa Medico-Chirurgical Journal of 1850, which reads as follows: "For the purpose of organizing a city medical society the profession met at the office of Dr. Bond, October 3, 1850; Dr. J. F. Sanford in the chair." It appears that a previous meeting had been held and had adjourned to meet on the aforesaid October 3. The association was called "The Medical Society of the City of Keokuk;" to hold its regular meetings quarterly. Membership was limited to members of the regular profession, of good character, and practicing in the City of Keokuk.

The officers elected were Dr. J. Millard, president; Dr. J. Haines, vice-president; Dr. E. R. Ford, secretary and treasurer; Dr. M. F. Collins, librarian, and Drs. J. L. McGugin, J. F. Sanford and B. H. Bond, censors. This was the beginning of the Lee County Medical Society.

The leading position occupied by Keokuk in the medical history of Iowa in the earlier years, required of the writer a careful search of available sources of information touching the activities of the profession in the city which promised so much before the extension of railways into Iowa.

Through the preservation of the first volume of the "Western Medico-Chirurgical Journal" by Dr. Frank Fuller, a few copies of its successor the "Iowa Medical Journal" from Dr. J. C. Hughes' library, and the researches of Dr. F. B. Dorsey, we have been able to place before the profession much of interest regarding medical Keokuk. Dr. Dorsey has prepared for this record the following outline of the history of the Keokuk Medical Society and Lee County Medical Society, including an account of the activities of the Keokuk profession during the Civil War.

THE EARLY HISTORY OF THE KEOKUK MEDICAL SOCIETY

The first meeting of Keokuk physicians for the purpose of organizing a medical society, was held at the office of Dr. Bond September 26, 1850. There were present at this meeting Drs. Millard, Bond, Collins, McGugin, Sanford, Heminway, Galland, Haines and Ford.

Dr. J. F. Sanford was chosen president and Dr. E. R. Ford secretary and treasurer. The constitution was drafted and adopted October 3, 1850, and signed by the following physicians: Drs. J. Millard, D. L. McGugin, M. F. Collins, Heminway, B. N. Bond, E. R. Ford, J. Haines, J. F. Sanford, Samuel G. Armer, Isaac Galland, and A. S. Hudson.

The first regularly elected officers were Dr. J. Millard, president, Dr. J. Haines, vice-president, Dr. E. R. Ford, secretary and treasurer, Drs. D. L. McGugin, J. F. Sanford, and B. N. Bond, censors.

A code of medical ethics, constitution and by-laws were arranged for to come up at the next meeting, and that an arrangement be made to publish the proceedings of the society in the city papers and Western Medical Journal.

The first delegates elected to the State Medical Society were Drs. A. A. Heminway, J. Haines, Samuel G. Armer and M. F. Collins.

The first paper read before the Society was by Dr. Samuel G. Armer, on the subject of "The Therapeutical Effects of Blood Letting."

There were problems and other things similar to those of the present day, annoying the Society, and one of them was the collection of bills. An endeavor was made by the Society to have one person selected as collector, that settlement should be made semi-annually. If not paid promptly, 20 per cent interest was to be added, and that the members of the Society pledge themselves to refuse all fellowship and intercourse with physicians not complying with the regulations.

Dr. J. C. Hughes became a member of the Society on September 28, 1851. The bill question seemed to be the great disturbing element, and disrupted the meetings for some years, and then pursuant to a call by Dr. McGugin, the next meeting was held on July 27, 1858, at the office of Drs. Allen & Stotts, with the following doctors present: McGugin, Sanford, Letcher, Hughes, Martin, Seyffarth, Parker, Dewey, Rowe, Smith, Potts, Carpenter, and Bond; Dr. McGugin, president; Dr. Bond, secretary.

The object of the meeting was that they might consult upon the best means for protection against imposition by such of the community who habitually neglect or refuse to compensate their medical attendant, and the necessity for united action.

Dr. J. C. Hughes was the first physician to propose the drafting of a fee bill. Drs. McGugin, Carpenter, Wyman and Bond were named as the committee.

The board of education rooms were selected as the place of meeting thereafter. The fee bill was

adopted, the charge for ordinary bleeding from the arm fixed at one dollar. Cupping, wet or dry, two to five dollars. Introduction of a seton, two to five dollars.

The advisability of establishing a city dispensary was brought up. The laying of the Atlantic cable was commented upon in able manner by Dr. McGugin, August, 1858. In October, 1858, the Society began to hold its meetings in the faculty room of the Iowa State University and continued to do so until 1859. The Society then again lapsed until 1864, when it was organized for the third time, February 15, at Dr. R. H. Wyman's office, for the protection and defense of the profession and a revision of the fee bill.

At this meeting were Drs. McGugin, Hughes, Wyman, Carpenter, and by invitation, Drs. Jones, Davis and McDonald, Dr. McGugin, president, Dr. Carpenter, secretary.

Drs. Jones, Davis and McDonald were admitted as members. The fee bill was revised.

The subject of practice of druggists, examining and prescribing for patients was then discussed and condemned, and notices were served on them to discontinue the same or suffer a boycott. The question of druggists retailing spirituous liquors by the drink was discussed, condemned, and efforts made to abate the practice.

On February 22, Dr. H. T. Cleaver and Dr. J. A. Webster were admitted as members of the Society.

During March, 1864, small-pox was prevalent in the city and efforts were made to have the city establish a pest-house. Drs. McGugin, Wyman, McDonald, Cleaver and Carpenter were named as the committee to confer with the city council.

The last meeting during 1864, was held at Dr. Winslow's office on June 21. There were present, Drs. McGugin, Hughes, Davis, McDonald, Carpenter, Winslow and Webster. Dr. A. Weismann was proposed as a member.

The interests of the physicians again lagged, and no meetings were held for the next ten years. Then August 1, 1874, the physicians were called together by Dr. Carpenter on account of the death of Dr. John F. Sanford. At this meeting Drs. G. A. Kuchen and H. A. Olsten were admitted as members.

Up to 1874, diphtheria was prevalent, and was treated by emetics, aconite, vapors of lime, and by liq. potasse locally. The swab was used with carbolic acid and glycerine. Nitrate of silver, carbolic acid and ferro subsulphate in glycerine, with the idea of the early destruction of the exudate. The practice of tearing off the membrane was also prevalent, but even then it was noticed by

the best informed and most observant physicians that the attempted destruction of the membrane by these means was useless and harmful, and there was marked opposition to this harsh treatment, local or otherwise. Dr. Collins thus early recognized and mentioned cases of diphtheria where no membrane or exudate could be discovered.

In noticing the proceedings of these old time physicians, we hazard nothing in the modest utterance that they would compare very favorably with that of any body of physicians of equal numbers anywhere. They were certainly remarkable and competent men.

IN THE SIXTIES

*"In eighteen hundred and sixty-one,
Oh then it was the war begun."*—Old Song

The geographic location of Keokuk made of it a point of strategic importance at the very beginning of the Civil War, and here was established the first military camp in the state, Camp Ellsworth, in May, 1861. In the same month, the first medical hospital was opened in the Seventh street medical college building, and from this time, until in the year 1865, our city was a busy scene of military activity. Hundreds of soldiers, sick and wounded, were brought from southern camps, and battlefields, and most of the time five large buildings were occupied for hospital purposes. Of the loyal citizens of Keokuk—and nearly all were loyal—none were more so than the medical profession, particularly those composing the faculty of the medical college. The senior of these was D. L. McGugin, M.D., professor of physiology, pathology and clinical medicine, who in October, 1861, went to the front as surgeon of the Third Iowa Cavalry, and remained in active service until 1863, when he resigned on account of ill health. It is said of him, that a "kinder heart never ministered to sick and weary soldier's needs." He had served as a surgeon in the Mexican War, and hence was fitted by experience for the position he filled so well. On his resignation from the service of his country, he resumed his position as a teacher in the college, and, although in greatly impaired health, continued, until shortly before his death, which occurred in 1865. Possessed of an accurate scientific mind, his fifteen years of medical teaching, leaves a memory undimmed as time goes on.

J. C. Hughes, A.M., M.D., was at the outbreak of the Civil War, already the most noted surgeon in the state; his connection with the medical college dating from 1850. The great war governor, Kirkwood, early in 1861, appointed him surgeon

general of the state, and he organized the army hospitals here, and had charge of them until they passed under the control of the general government. The opportunity was here afforded Dr. Hughes to add to his already vast experience as a surgeon, and he became widely known as a careful, rapid and successful operator, and one who always conserved first, the best interests of his patients. Following the war, he devoted his time to the college and his constantly increasing surgical practice until within a few months of his death, which occurred in 1881. Many of the practitioners of the Middle West today are ready to attest the skill in operation and the earnest, incisive method of teaching of Dr. Hughes.

H. T. Cleaver, M.D., came to Keokuk in 1862 to take charge of the Estes House Hospital for the U. S. Government, and remained in this position until the close of the war. The Estes House was the largest of the five, and most of the time ten assistants were required to properly care for the patients. The same year, 1862, the Doctor was elected to the chair of obstetrics and diseases of women in the college, and this connection he maintained until 1883, when he resigned on account of failing health. In the administration of the affairs of the hospital entrusted to his care, Dr. Cleaver was unswerving in his fidelity to the trust, and the kindly interest manifested to patients in his invariable daily bedside visits, endeared him to every one that was an inmate of the Estes House in those terrible years. As a medical teacher, he was very popular with the students, dignified and courtly, yet always genial, and easily approached; clear and incisive in his method of imparting instruction; outspoken in his abhorrence of pretense; the impersonation of ethics in the broadest sense of the word, he easily became the ideal of every student. He continued in practice after the war, until his death in 1888, a prince among men, a physician of the old school.

Col. Morse K. Taylor, a surgeon of the regular army, was sent to take general charge of the hospitals in Keokuk, in the autumn of 1861, when they passed from the control of the State of Iowa, to that of the United States.

At this time Dr. McGugin had gone with his regiment to the "front," and Dr. Taylor very acceptably filled the chair of physiology and pathology in his absence; this he continued to do until Dr. McGugin's return in 1863. Dr. Taylor was noted for his strict observance of army regulations, and his painstaking efforts to interest. Of somewhat haughty demeanor, his relations with his associates were never very cordial.

He continued in the army medical service at

various army posts, until his death, which occurred about 1885. At one time after leaving Keokuk, he was connected with the medical department of Lind University, Chicago, now the Northwestern University Medical School, as professor of physiology.

Edward F. Clapman, M.D., came to Keokuk in 1861, to fill the chair of anatomy, made vacant by its previous occupant going to the military field. Dr. Clapman was a notable teacher, and aroused the greatest enthusiasm in his classes. He continued in the faculty for seven or eight years, and acquired a large general practice, and held the confidence of his clientele. He was exceedingly popular, socially, and was a man of high educational attainment. An accomplished performer upon the piano; a musical composer of merit; genial and prepossessing in manner, he was possessed of hosts of friends, and warmly welcomed everywhere. He died in New York City about 1894.

Abel C. Roberts, M.D., came to Keokuk from Ft. Madison, in 1862, as a contract surgeon, and took charge of one of the government hospitals. His reputation as a thorough going practitioner of medicine had preceded him, and he was at once elected to the chair of principles and practice of medicine in the medical college. In this position he displayed remarkable ability, delivering two courses of lectures that were considered models of completeness and scientific accuracy. Commissioned as a surgeon of the 21st Missouri, went to the field of action, and remained with his regiment until mustered out in 1866.

Returning to his home, the doctor resumed his practice in civil life with success, but in consequence of exposure during his army life, he was incapacitated for very active duties, and he assumed the editorship of a daily newspaper, which he filled very creditably. A few years ago he passed over to the great beyond, full of honors, possessed of "troops of friends," and his mantle worthily carried by his son, Dr. F. C. Roberts of Ft. Madison.

A. M. Carpenter, M.D., began the practice of his profession in Keokuk in 1855. Ten years later, 1865, he was elected professor of the theory and practice of medicine in the medical college. This place he held until 1882, when he resigned to assist in the organization of the College of Physicians and Surgeons of Chicago, delivering one course of lectures there, then removing to St. Louis, Missouri, he was identified with the organization of the Marion Sims Medical College and latterly with the Barnes Medical College, retaining his connection with the last until his death,

which occurred in December, 1907. Fifty-two years a practitioner, and forty-two years a teacher of medicine, a record unparalleled probably in the entire Middle West. As a physician, Dr. Carpenter, was possessed of the entire confidence of his patients, merited because of his great skill as a diagnostician.

Dignified in manner, genial and handsome of face, gentle and musical of voice, original in illustration, and eloquent to a great degree in expression, his class rooms were crowded, and he was by far the most popular medical lecturer of his day.

POLK COUNTY MEDICAL SOCIETY

The first local society to be designated a county medical society was organized in Des Moines and called the Polk County Medical Society.

The records of this organization have apparently been lost but through the courtesy of Johnson Brigham, state librarian, we have been able to use certain newspaper accounts of this early society which appears in volume one of Brigham's History of Polk County. Polk County Medical Society was organized October 24, 1851. The Keokuk Society was organized October 3, 1850, but the society was limited to Keokuk City and apparently did not include Lee county. It is fair, however, to assume that this society was the nucleus of a county society.

Among the early Des Moines physicians was Dr. Pierce B. Fagan who came to Des Moines with P. M. Cassidy and for two years these two pioneers were room-mates and occupied the same office. In 1848, Dr. Fagan was a candidate for state senator on the Whig ticket and Mr. Cassidy a candidate for the same office on the Democratic ticket. It appears to have been a friendly contest, for the issue according to tradition was based on the claim that Mr. Cassidy being a lawyer could be spared but Dr. Fagan as a physician was needed at home to preserve the health and welfare of the people and as the majority of the voters held to this view Dr. Fagan remained at home.

Notwithstanding the rather flippant remarks of the reporter, it is certain that Polk County Medical Society did not die for it appears that Dr. Henry Courtney of Des Moines, was elected president in 1859, and remained an active member until his death in June, 1861. It appears also that Dr. H. L. Whitman was president of Polk County Medical Society in 1868 (when the State Medical Society held its first meeting in Des Moines), "welcomed the members from abroad in an appropriate and well received address."

The call for a meeting of the medical profes-

sion of Polk County brought together at the county seat the widely scattered physicians and surgeons of the county and organized them for conference and future harmonious action. Dr. A. Y. Hull of Lafayette, Camp township, was called to the chair and Dr. A. L. Gray was made secretary.

Drs. Cole, Murdock and Plumley were appointed a committee to report a constitution.

Drs. Huntsman, Gray and Collet were named a committee to report a code of ethics by which the society should be governed in practice.

The constitution named the association "The Polk County Medical Society," and fixed upon quarterly meetings at the county seat.

Any regular graduate in good standing could become a member "on presentation of a diploma from any respectable medical college, or a license from any respectable medical society, or upon the recommendation of the board of censors, and the payment of the initiation fee of one dollar."

Any member who should "procure a patent for a remedy or instrument of surgery," or who should prescribe "a medicine without knowing its composition" or who should thereafter give "a certificate in favor of a patent remedy, or be guilty of any dishonorable conduct" was subject to expulsion by a majority vote of members present.

A. Y. Hull was elected president, D. V. Cole vice-president, Dr. Huntsman of Lafayette, secretary and treasurer.

The code of the National Medical Society was adopted until the committee should report on code.

Drs. Cole, Murdock and Collet were appointed a committee to report, at the next meeting, on "the causes that depress the profession in Polk County."

Following is a list of charter members: Drs. Hull of Lafayette, Cole and Huntsman of Fort Des Moines and Collet, Gray and Plumley of Hartford.

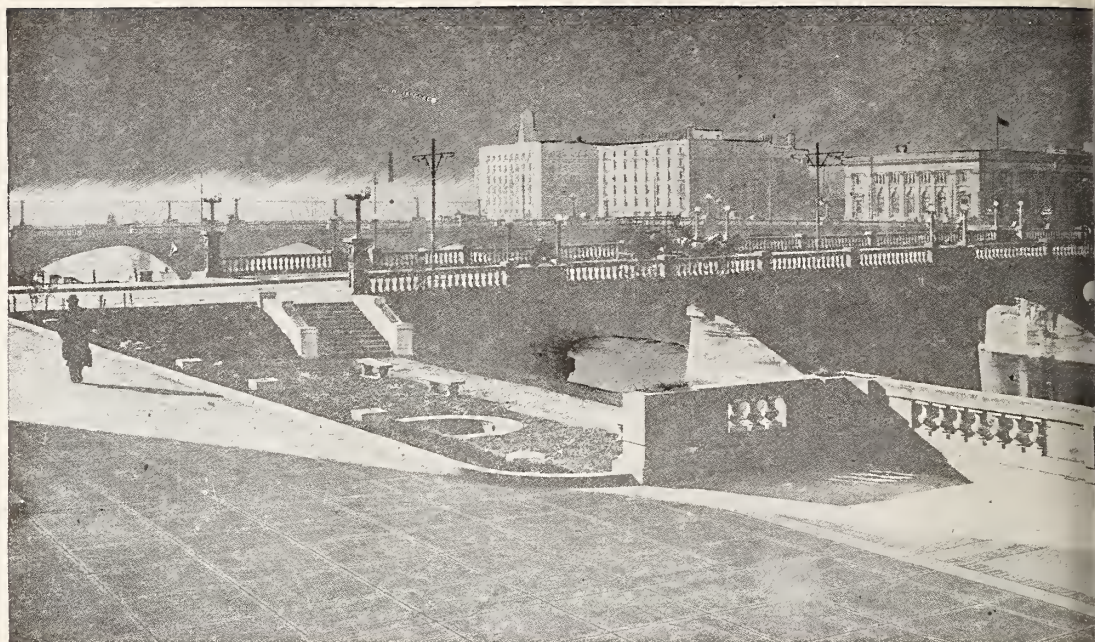
In the "Star" of October 16, an irreverent pen gives an exaggerated suggestion of the difficulty of agreeing upon a code of ethics at that early date. The anonymous writer has seen, during the past summer, enough of the lack of "dignity" to blast the reputation of any set of physicians! He refers to consultations generally ending in a "row," with the use of choice epithets! He hopes the association will persevere in its purpose to elevate the practice.

At the next meeting of the doctors, January 30, 1852, Drs. H. C. Grimmell and J. J. Sanders were elected members of the society: Secretary

Des Moines
again extends her
cordial greetings
to the
Medical Profession
of Iowa

Come, bring yours friends
and enjoy the entire
session

Secure your hotel reser-
vation early



THE FAMOUS DE

Iowa

"In All That Is Go

Iowa First

Iou

In Value of Farm Products

Greatest Water P

In Live Stock

Largest Cereal M

In Improved Farm Land

Largest Calendar

In Motor Cars Per Capita

Largest Sash and

In Wealth Per Capita

Largest Cream Se

In Literacy

The Total Value of Live Stock and Farm
Products for 1919 was \$1,791,318.202.00

Clay Products, F
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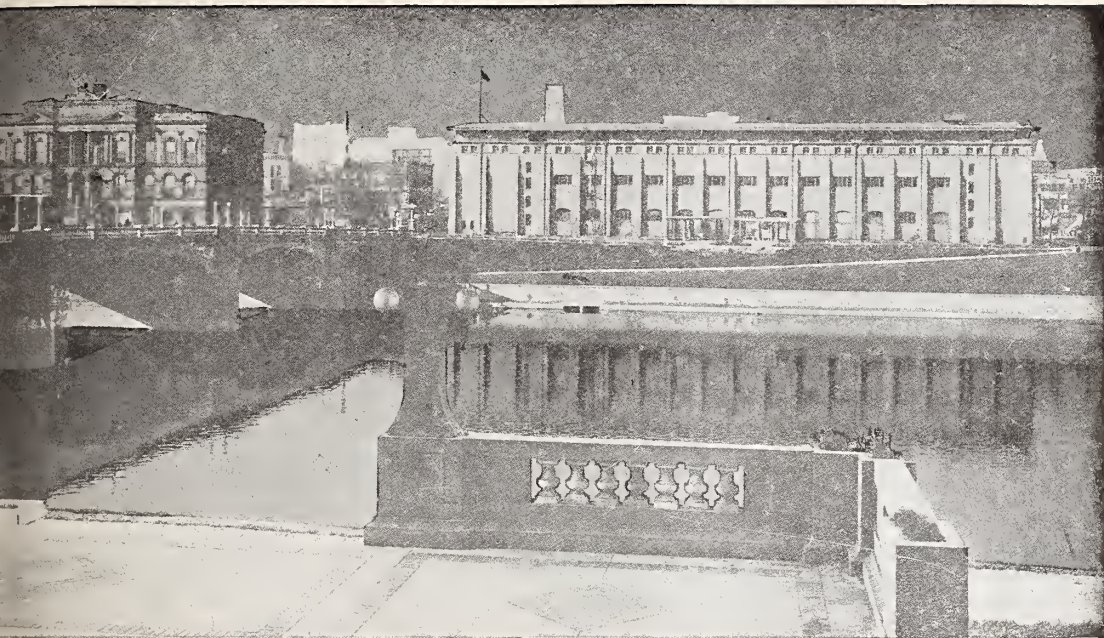
Des Moines
May 11, 12 and 13

COMMITTEE

DONALD MACRAE, JR., M.D.....Council Blu

TOM B. THROCKMORTON, M.D.....Des Moir

ALEXANDER D. MC



IVES CIVIC CENTER

You
are the Iowa State
Medical Society

Be loyal, come and
help to make this
Seventieth Annual
Session
a fellowship as well
as a scientific
success



Facts

...a Affords the Best"

Has

Iowa Prosperity

nt in the World

490,500 families live in Iowa; and 69% own
their own homes

World

98½% of Iowa's soil is productive; a record
unequaled

n the U. S.

No point in Iowa is more than 12 miles from a
railway

actory in U. S.

Every year there are more hours of sunshine in
Iowa than in California; and Iowa has never
known a crop failure

actory in the U. S.

Iowa soil produces annually more wealth than
the world's gold mines

ipment, Steel Con-
mense volume

Iowa's per capita wealth, \$3,345

United States per capita wealth, \$1,965

Annual Session

ARRANGEMENTS

THOMAS F. DUHIGG, M.D..... Des Moines
DODNEY P. FAGAN, M.D..... Des Moines
I.D..... Des Moines

**Iowa State Medical
Society**

Organized in 1850

Huntsman's report denied the public all information as to the causes of depression in the practice, as to the code of ethics reported, and as to fee bill. The fee bill reported was adopted with some revisions. The report on the causes of depression apparently did not satisfy, for the subject was referred to a new committee who were instructed to revise and report.

Dr. Hull, president of the society, read a paper on "The Wants of the Medical Profession." It is interesting to follow this pioneer physician and publicist through his brief presentment.

The preeminent want of the medical world Dr. Hull found to be a "corps of competent physicians, men for whom nature had done much, and who possessed a liberal preparatory and thorough medical education."

Another deficiency noted was "the lack of healthy discriminating tone in public sentiment, to the end that the ability of the competent physician may be fully appreciated." Too loose reign was given to "medicasters" who were virtually authorized by law "to go forth on their errand of death." Iowa was declared to be one of the states in which the practice was not regulated by law. In his view judicious laws would tend to relieve their crippled profession and save communities from incalculable mischief. Another want was harmony among the members of the profession. "Jars, schisms, strifes, animosities and bickerings" stood as "imperishable monuments of their shame and deep degradation."

"Physicians, of all men, should earnestly cultivate intimate and confidential relations with each other, and the only rivalry that they should countenance should be to see who could become best acquainted with the true science of medicine, and to strive to occupy the highest and most extended sphere of usefulness, in their respective circles." He saw lasting benefits shadowed forth in the new organization.

In the "Journal" of March 4, 1852 appears the long debated "Code of Medical Ethics" adopted by the Polk County Medical Society.

1. It declares for the observance of secrecy and delicacy in the relations of physicians with their patients.

2. It would avoid all visits beyond those necessary to the good of the patient.

3. It deplores gloomy prognostications, or the urging to the importance of one's services, but advises timely notice of danger to the friends and, when safe, to the patient himself.

4. It recommends consultations in difficult and protracted cases.

5. It counsels kindness, and generous allow-

ance for the mental debility of the patient.

6. It was regarded as highly derogatory to the dignity of the profession to resort to public advertising, calling the attention of those afflicted with particular diseases, offering advice to the poor gratis, promising radical cures, publishing cases and operations, etc.

7. When called to see another physician's patient, the code prescribes that the physician should make his prescriptions to palliate or temporarily relieve the patient until the attending physician resumes his charge of the case.

8. It maintains that, ordinarily, the physician called in should make no charge against the patient.

9. It declares that no charge should be made for attendance on another physician's family; but the other physician, if able, should remunerate him as he is able to do so.

10. Comments to the disparagement of another physician's treatment it declares to be "a base violation of (the code of) a gentleman."

The remaining sections are in substance as follows:

11. A physician should not take charge of another's patient, unless in consultation, or on relinquishment of the case, or a due notification that the other's services have been dispensed with. In such case, he should make no reflections on his predecessor.

12. General resume.

13. Consult only with regular physicians.

14. In consultations observe respect for others' judgments.

15. After examination retire for interchange of opinions—consultations to be secret and confidential.

16. Consultation concluded, the consulting physician should attend no more unless solicited.

The paper was signed by A. L. Gray, committee on publication.

Whether this pioneer medical society died of too much code and rate-bill or the subsequent proceedings ceased to interest the press, the fact remains that no further reports of its meetings are to be found in the *Star*, *The Times* or the *Journal*.

DUBUQUE COUNTY MEDICAL SOCIETY

The first district medical society to be organized in Iowa was November 4, 1852 at Dubuque, the organization was finally perfected January 11, 1853.

This society was known as the Northwestern Medical Society and included northwestern Iowa, southwestern Wisconsin and northwestern Il-

linois. Dr. George W. Richards was elected president, meetings were held monthly. In 1875 there were eighteen members.

LOUISA COUNTY MEDICAL SOCIETY

The Louisa County Medical Society was organized April 24, 1852, at Wapello. At this the first meeting of the society, the following officers were elected: Dr. J. M. Robertson of Columbus City, president; Dr. T. G. Taylor of Wapello, secretary; Dr. J. B. Latta of Grandview, treasurer; Drs. H. T. Cleaver, John Bell of Wapello, and J. H. Graham of Morning Sun, censors. At this meeting a constitution, by-laws and code of ethics were adopted. It appears that the above named physicians constituted all that were present. At the next meeting, January 19, 1853, Drs. H. Belknap, John Cleaver of Columbus City and A. S. Condon were admitted to membership. Dr. John Bell, Sr., was admitted as an honorary member April 16, 1853, and Dr. W. M. Clark of Columbus City to active membership, and in January, 1854, Dr. B. G. Neal of Columbus City was admitted to membership. Dr. W. A. Colton, Columbus City, May 25, 1855; April 19, 1856; Dr. W. S. Robertson, Columbus City; May 28, 1856, Dr. D. McCaughn of Morning Sun; April 18, 1857, Dr. John Muldoon of Wapello; July 17, 1858 Dr. C. H. Curtis was admitted to membership and April 20, 1861, Dr. S. E. Jones of Grandview was made a member.

WAPELLO COUNTY MEDICAL SOCIETY

The Wapello County Medical Society was organized in 1853 by Dr. C. C. Warden; J. Williamson; W. L. Orr and A. D. Wood of Ottumwa; Dr. J. W. LaForce of Ashland, and Dr. Weir of Agency. President, Dr. C. C. Warden; vice-president, Dr. A. D. Wood; secretary, Dr. J. Williamson.

During the Civil War the society did not meet, and not until 1870 was the Wapello County Medical Society, again reorganized with Dr. W. L. Orr, president; T. J. Douglass, vice-president, and J. Williamson, secretary.

Since this reorganization in 1870 the Wapello County Medical Society has met uninterruptedly.
A. O. Williams.

JOHNSON COUNTY MEDICAL SOCIETY

At the meeting of the physicians of Iowa City to attend the funeral of Dr. John A. Morse in August, 1855 the first steps were taken to form a medical society in Johnson county. It was soon after organized and flourished for many years; until in 1869 dissensions occurred and a division followed which resulted in the incorporation of

the society by a respectable part of the membership which formed the dissenting minority. The incorporated society continued its organization while the other finally ceased to exist.

CLINTON COUNTY MEDICAL SOCIETY

No records of the earlier meetings of the Clinton County Medical Society can be found. Some records in our possession show that in 1859 a medical society was organized and that in 1869 it was reorganized and the membership restricted.

MUSCATINE COUNTY MEDICAL SOCIETY

Muscatine County Medical Society was organized on the 16th day of June, 1866 with Dr. A. Ady of West Liberty as president. For a time everything passed off pleasantly but soon interest began to die out and the meetings ceased for lack of attendance. It was however revived from time to time until the 12th of June, 1874, when a reorganization was accomplished under the title of Muscatine Medical Society. Dr. J. W. Robertson was elected president and Dr. H. M. Dean, secretary. The meetings have been held monthly.

MARSHALL COUNTY MEDICAL SOCIETY

The first attempt to form a medical society in Marshall county was in September, 1856 at Marietta. Then the county seat, and known as the Iowa Central Medical Society with eight members holding quarterly meetings at Marietta. Dr. Elias Fisher was elected the first president and Dr. R. Howe Taylor secretary.

This society maintained a useful existence for three years. Some of its members left for other localities and the society disbanded. After a period of nearly two years another medical society was organized in Marshalltown to which place the county seat had been removed in 1861. "This organization was known as the Marshall County Medical Society and was brought into existence by the convention and organization of the medical gentlemen of the county. It consisted of twelve members who convened together in quarterly meetings until the following year, 1862, when the excitement incident to the call for troops for the Civil War, together with the appointment of some of its members to their respective regiment, caused suspension and finally disorganization of the society.

During the entire war and until January, 1867, no medical society appears to have existed in the county, but on the 12th day of January a convention was held by the physicians of the county and the Marshall County Medical Society was reorganized. Its meetings were monthly, its mem-

bership seventeen, "but its organization was premature." Dr. Kierulff says: "That in looking over his records he is reminded of the mountain in 'Æsop's Fables,' which was in travail for several months and finally brought forth a mouse. It was composed of regulars, irregulars, graduates and non-graduates, gentlemen and pugilists and finally after preferring charges upon each and every member for gross violations of medical ethics and etiquette, it adjourned to meet again to re-organize, making graduation from some regular school as a basis of membership. This last clause is the last but best expression of the seven month's existence of that society, and like the last straw, it 'broke the camel's back,' and the medical profession of Marshall county did not come together until March 31, 1873 when they organized in regular form, a society called the Iowa Central Medical Association, to be composed of such physicians and surgeons as would be admitted to membership in the Iowa State Medical Society.

SCOTT COUNTY MEDICAL SOCIETY

Scott County Medical Society was organized in Davenport, October 18, 1856, nine physicians met for that purpose at the office of Drs. Witherwax and Carter and on October 28, thirteen physicians met at the same place and adopted a constitution and by-laws and the code of ethics of the American Medical Association.

The following officers were elected: President, Dr. Edgbert S. Barnes; vice-president, Dr. Lyman Carpenter; secretary, Dr. J. J. Thomson; treasurer, Dr. James Thistle.

At the first quarterly meeting Drs. Barnes and Sanders were elected delegates to the American Medical Association. At the second meeting April 28, 1857, the member of the Rock Island Medical Society were made honorary members. January 26, 1858, the constitution and by-laws were revised and were again revised in 1855 under the direction of a committee consisting of Drs. W. F. Peck, J. W. H. Baker and J. W. Witherwax.

In 1876 Dr. W. D. Middleton was president, Dr. W. W. Grant, vice-president; Dr. C. H. Preston, secretary and Dr. L. French, treasurer. At this time the membership was forty-three.

MAHASKA COUNTY MEDICAL SOCIETY

The first medical society in Mahaska county was organized in 1856. Dr. S. E. Rienhart, president and Dr. J. T. Hopkins, secretary. When the Civil War broke out the meetings were discontinued. In 1872, a second organization was ef-

fectured with a constitution and by-laws and subordinate to the state and national associations. This society seems to have maintained a continuous existence. So many of the earlier societies had more or less serious interruptions due in some measure perhaps to a heterogenous mixture of graduates and non-graduates.

THE LINN COUNTY MEDICAL SOCIETY—1859

This society was organized in 1859 at Mt. Vernon by Drs. Love, Ely, Ristine, Carson and Lyon. The meetings were suspended during the war but were revived in 1866. In 1873 its name was changed to the Iowa Union Medical Society which continues as an influential organization with two meetings a year. The present Linn County Medical Society was organized in 1903 as a part of the state and national organization and meets twice a year. The enterprising town of Mt. Vernon has a medical organization known as the Practitioners Club which meets once a month.

NORTH IOWA MEDICAL SOCIETY

In the early years of medical organization in Iowa when the country was thinly settled and physicians few in number, it was the custom for the medical profession to organize by several adjoining societies meeting together for professional fellowship. On June 22, 1859, the counties of Fayette, Allamakee, Clayton, Howard and Winnebago joined in forming a society known as the North Iowa Medical Society; the meeting was held at McGregor. Dr. Frederick Andros was elected president and Dr. H. C. Martin, secretary.

BOONE COUNTY MEDICAL SOCIETY

A medical society existed in Boone county in 1866 called the Boone County Medical Society. A few meetings were held but owing to a lack of interest on the part of its members it was soon abandoned.

April 21, 1871 a new society was organized called the Boone County Medical Society with fourteen members, Dr. L. J. Allerman was elected president and Dr. A. A. Deering, secretary. Four or five meetings were held and this society followed its predecessors.

In 1874 at a conference between Dr. L. J. Allerman of Boone, Dr. W. S. Schermerhorn of Jefferson and Dr. D. S. Fairchild of Ames a meeting was arranged of the physicians of Green, Boone and Story counties for the purpose of forming a district society, in view of the difficulty of maintaining county societies with the small number of physicians then practicing in these counties. Subsequently, Carroll, Calhoun

and Hamilton were added. At the first meeting held in Boone, Dr. P. S. Moser of Boone was elected president; Dr. W. S. Schermerhorn, Jefferson, vice-president; Dr. Charles Enfield, secretary. This society met semi-annually and remained in active existence until the great reorganization of the medical state and national associations, when its place was taken by the various county medical societies.

COUNCIL BLUFFS MEDICAL SOCIETY

The preliminary meeting for the purpose of organizing a medical society in Council Bluffs, was held at Dr. P. B. MacKay's office July 26, 1869. The meeting was called to order by Dr. Donald Macrae who moved the election of Dr. P. J. MacMahon, chairman. On motion, Dr. Macrae was elected secretary.

A committee consisting of Drs. McKay, Macrae, Malcolm, Stein and Osborne, was appointed to draft a constitution and by-laws.

The preliminary organization adjourned, to meet in Council Bluffs August 2, 1869. When the constitution was presented and adopted by the society, eleven gentlemen, graduates of regular medical colleges, were present. The following officers were elected:

- Dr. P. J. McMahon, president.
- Dr. A. B. Malcolm, vice-president.
- Dr. D. Macrae, secretary.
- Dr. P. B. MacKay, treasurer.

Drs. H. W. Hart, H. Osborne, C. C. McGovern, board of censors.

At the August 16, 1869 meeting, a fee bill was adopted. It will be interesting to note that the fee bill adopted August 16, 1869 was in most respects higher than the one in force in 1917.

The constitution provided that this society should be known as the Council Bluffs Medical Society and that its meetings should be held on the evening of the first Monday in each month. The high character of the original membership of the Council Bluffs Medical Society is indicated by the names, which we take pleasure in inserting at this point.

- Dr. H. W. Hart, Geneva Medical College, 1846.
- Dr. P. B. MacKay, Rush Medical College, 1849.
- Dr. Sylvanus W. Baker, University of New York, 1832.
- Dr. Donald Macrae, University of Edinburgh, 1861.
- Dr. E. P. Russell, University of Vermont, 1866.
- Dr. A. B. Malcolm, Harvard University, 1834.
- Dr. P. J. MacMahon, University of Louisville, 1846.

Dr. I. Ward Scott, University of Maryland, 1866.

Dr. C. C. McGovern, University of Dublin, 1848.

Dr. Henry Osborne, University of Iowa (Keokuk), 1855.

Dr. Herman Stein, University of Jena, 1849.

At the meeting of the Council Bluffs Medical Society, February 7, 1870, three members were elected delegates to the State Medical Society, Des Moines; Drs. McGovern, Osborne and Hart.

On May 2, 1870, it was moved "that the members present resolve themselves into a vigilance committee for the purpose of securing a better attendance," which was adopted, indicating that even in the earlier days it was difficult to secure a satisfactory attendance of members.

At the October 3, 1870 meeting, Dr. Osborne was fined \$1 for non-attendance and for neglect to bring forward his essay of that evening.

Dr. Macrae at the same meeting, gave notice that Dr. Scott was about to enter into matrimony and leave the society and the city, and moved resolutions, etc.

That the Council Bluffs Medical Society exercised watchful care over the welfare of itinerant quacks is shown by the resolutions moved by Dr. Macrae at the August 7, 1871 meeting, endorsing the action of the "Daily Times" in exposing a certain itinerant-quack by the name of Dr. Logan.

At the same meeting Dr. Goff discussed the propriety of the Council Bluffs Medical Society purchasing a microscope, and instructed that a committee correspond with instrument makers with a view of taking definite action on the purchase of a microscope.

The meeting of September 4, 1871 appears to have been devoted to a consideration of what to do with numerous quack doctors that seemed to be infesting Council Bluffs at this time.

At the same meeting, a committee was appointed to confer with the druggists with reference to establishing a more friendly relation with them. At the February 5, 1872 meeting, the committee on the relation of the druggist, made a somewhat lengthy report, closing with two resolutions; one to the effect that the doctors should be trained to their profession, and second, that it was unprofessional for a physician to accept a percentage on prescriptions. This committee consisted of Dr. S. W. Baker, Dr. A. B. McKune and Dr. H. B. Goff.

Dr. Donald Macrae whose term of office as president expired with the August 5, 1872 meeting, proved to be an efficient and active presiding officer. During this year the records show nu-

merous cases of discipline for non-attendance, and suspension of members for non-payment of dues.

At the August 5, 1872 meeting, Dr. S. W. Baker was elected president.

At the August 4, 1873 meeting, Dr. H. Osborne was elected president.

At the August 3, 1874 meeting, Dr. A. B. McKune was elected president.

A special meeting was called for March 15, 1875, to consider the resolutions commemorating the death of Dr. McMahon who had been secretary of the society for two years.

The reading of the minutes of the Council Bluffs Medical Society presents the ordinary work of a healthy and vigorous organization. Certain names, Dr. Macrae, Dr. Lacy, Dr. Baker, Dr. Osborne, and Dr. Barstow, were mostly present, and were active in all the work.

At the October 25, 1885 meeting, the board of censors examined the credentials of Dr. H. B. Jennings, and finding them satisfactory, reported in favor of his election, whereupon the society elected him to membership.

It appears that the meetings of the society were generally held at the doctors' offices.

Dr. J. F. White appears to have been secretary of the society for some years and on account of his skill with the pen and on account of his interest in the profession, made rather interesting reports of the meetings.

At the March 9, 1887 meeting, Dr. Lacy read a paper entitled "Shall We Quarantine in Cases of Contagious Diseases?" It appears that the society generally approved of such quarantine.

It appears that at the April 13, 1887 meeting, Dr. Jennings was fined 50 cents for failing to read his paper, he being absent.

At the April 27, 1887 meeting, Dr. R. A. Moore was fined 50 cents for failing to be present and read his paper.

At the May 25, 1887 meeting, Dr. Cleaver was fined 50 cents for failing to be present and read his paper.

At the September 14, 1887 meeting, Dr. Barstow was fined 50 cents for failing to be present or send his paper.

At the October 26, 1887 meeting, Dr. Deetken was fined 50 cents for failing to read his paper.

At the February 8, 1888 meeting, a resolution was adopted in favor of admitting foreign medicines and foreign instruments free of duty.

At the May 9, 1888 meeting, the question for discussion was "Resolved that an exploratory incision is necessary in all grave penetrating wounds of the abdomen." The discussion was opened by

Dr. Macrae, in favor of such exploratory operation, and Dr. Seybert against it.

At the June 13, 1888 meeting, a committee was appointed to prepare a directory of the profession in Council Bluffs for publication in the Nonpareil.

At the July 25, 1888 meeting, Dr. Lacy was fined 50 cents for not being present and reading his paper.

From the records of the August 8, 1888 meeting, it appears that the secretary's salary was \$10 a year.

At the meeting of the Council Bluffs Medical Society held August 12, 1891, it was moved "that the State Board of Medical Examiners be requested to grant no further permits to practice in this county without first communicating with this society and granting sufficient time to make an investigation and report upon the character and fitness of the applicant." The motion prevailed.

At this same meeting Dr. H. B. Jennings was elected secretary in place of Dr. J. F. White who had served as secretary of the society since August 12, 1885. It was principally because of the excellent penmanship of Dr. White that we were able to go over the transactions of six years. The Council Bluffs Medical Society was fortunate in its secretaries in that Dr. Jennings wrote nearly as well as Dr. White.

It is interesting to note here and there through all these years, that the member who failed to present a paper was able and willing to pay his fine of 50 cents.

As time goes on, Dr. Jennings appears to have gained courage and purchased a courser pen, that made the reading more easy.

At the August 9, 1893 meeting, Dr. V. L. Treynor was elected secretary. The moneys collected at this meeting amounted to \$24.50 and the balance in the hands of the secretary August 8, 1893 was \$42.05.

There seems to be some deterioration in penmanship; Dr. White having reached the highest degree of development, Dr. Jennings fell close behind and Dr. Treynor rather excelled in brevity of his reports, but not in his handwriting.

At the May 9, 1894 meeting, a communication was received from the Merchants and Manufacturers Association, tendering their support to the society in securing the meeting of the Iowa State Medical Society in Council Bluffs in 1895.

August 11, 1894, a special memorial meeting was held on the occasion of the death of Dr. Chas. H. Pinney and another memorial was held September 14, 1894 on the occasion of the death of Dr. J. F. White.

August 14, 1895, we find a new name serving as secretary, Dr. F. S. Thomas.

At the August 12, 1896 meeting, Dr. F. W. Dean was elected secretary.

At the December 23, 1896 meeting, a new constitution and by-laws for the society was adopted.

At the August 10, 1898 meeting, Dr. Mary Tinley was elected secretary.

A memorial meeting was held August 14, 1899 on the occasion of the death of Dr. F. S. Thomas.

At the August 10, 1899 meeting Dr. Donald Macrae was elected secretary.

At the meeting of the society held August 13, 1900, Dr. Macrae was elected secretary.

At the meeting of the society held August 5, 1901 Dr. F. W. Dean was elected secretary.

At the regular meeting of the society held August 18, 1902, Dr. J. H. Cole was elected secretary.

A special meeting was held September 26, 1903, on the occasion of the death of Dr. John Green.

At the October 18, 1904 meeting, Dr. J. H. Cleaver was elected secretary.

A special meeting of the Council Bluffs Medical Society was held March 26, 1907, on the occasion of the death of Dr. T. B. Lacey.

A special session of the Council Bluffs Medical Society was called August 15, 1907 on the occasion of the death of Dr. Donald Macrae, Sr.

The Council Bluffs Medical Society is to be congratulated on having a complete record from its organization July 26, 1869 to December 21, 1915; bound in heavy Russia leather and deposited in the public library of Council Bluffs.

DALLAS COUNTY MEDICAL SOCIETY

Dallas County Medical Society was organized in November, 1868. Dr. M. B. Manesby, president, who began practice in Dallas county in 1854.

WARREN COUNTY MEDICAL SOCIETY

Warren County Medical Society was organized in July, 1869 with seven members.

MADISON COUNTY MEDICAL SOCIETY

Madison County Medical Society was organized in 1873. Members, Drs. L. M. Turner, L. M. Fidreck, J. G. Scott, D. D. Allen, W. L. Leonard, S. B. Cherry, M. W. Crider, Jas. Sloan, H. A. Russell, John Green, W. H. Anderson, Z. Leonard and J. H. Nelson.

STORY COUNTY MEDICAL SOCIETY

The preliminary meeting for the organization of the Story County Medical Society was held at Dr. Fairchild's office in Ames, June 19, 1873. There were present, Drs. Starr and Fairchild, Ames; Dr. B. F. Allen, Story City, and Dr. J. S. Gillett, Iowa Center.

On July 17, 1873, the Story County Medical Society was formally organized by electing Dr. D. S. Fairchild, president; Dr. J. S. Gillett, vice-president, and Dr. S. J. Starr, secretary, and adopting the code of ethics of the American Medical Association. The membership consisted of Drs. S. J. Starr, James Bradley, J. S. Gillett, B. F. Allen and D. S. Fairchild. At that time there were but seven graduate physicians in the county, and three of this number were not engaged in active practice. Those holding diplomas were as follows:

Dr. Sheldon, Iowa Center; Dr. Gillett, Iowa Center; Dr. Stitzel, Nevada; Dr. Grafton, Cambridge; Dr. Bradley, Ames; Dr. Fairchild, Ames; Dr. Favre, near Ontario. Drs. Sheldon, Favre and Grafton, were not in active practice.

The meetings of the Story County Medical Society were held quarterly. At the second annual meeting (1874). Dr. G. A. Meredith of Ontario was admitted to membership. The old officers were re-elected.

For several years after the organization of the society the number of graduates in medicine were so small that all engaged in active practice who did not profess to belong to some special sect of medicine were admitted to membership.

At the time Story County Medical Society was organized, the only towns having physicians were Ames, Nevada, Story City, Iowa Center, Colo and Cambridge. Most of the physicians were practicing on one course of medical lectures. Only a few roads were fenced and were so bad that for a part of the year on horseback was the only practical way of visiting patients in the country, and it was sometimes a good day's work to visit two patients.

Story County Medical Society for the first ten years of its existence met regularly every three months, but with a rather fluctuating membership. About 1884 or 1885 there were enough graduated physicians in the county to reorganize on the basis of a full medical course with a degree as a requisite for membership. The one course practitioners who remained had in the meantime attended a second course and obtained a degree.

TREATMENT OF UTERINE CERVICITIS

LEONE MORDEN SCRUBY, M.D., Des Moines

Before considering the special treatment of cervicitis we must deal with the conditions that occasion and aggravate it, of which the chief are lacerations, displacements, gonorrhea, sexual abuse and any condition giving rise to irritating

discharges. Also adjacent inflammations and the patient's general condition. Lacerations of cervix due usually to injury during labor is a common cause and when not treated or given surgical care may cause severe systemic and nervous symptoms. The present education of women along medical lines makes them consent to surgical treatment more readily now than in the past, and they make an excellent recovery after a good repair. The small tears respond to treatment and often become permanently cured. The treatment prior to operating and for the curable cases is the same and means a great deal to the surgeon in removing the inflammation, erosions and pus surface, leaving a better stronger tissue to heal.

A mild astringent such as zinc sulphate 1 dram to quart of warm water, zeratol 1 dram to two quarts water! Powdered alum and boric acid combined; douche two or three times daily, depending on the severity of the condition.

Instruct the patient to douche before coming to the office for a treatment, consisting of swabbing the surface with a solution of potassium permanganate, or chlorazaine and apply 10 per cent silver nitrate or protogal to the eroded surface, freeing it from pus and mucous as much as possible. Applications of iodine twice a week for a short time aids in healing.

Where there is pelvic congestion and involvement of inguinal and lymphatic glands, I often use the depleting vaginal suppositories of mg. sulph. ichthyol and glycerine inserted and leave tampon ten to twelve hours and follow with a zeratol or salt douche. There are healing suppositories of boroglyceride and ichthyol without the mg. sulph; the patient may insert at night. Instruct them to take a douche the following morning. A tablespoonful of kaolin through the speculum and a light gauze pack, which the patient removes in six or eight hours and follows with soda douche. This is done daily for about ten days. In some cases the results have been excellent, but I cannot say how long they will remain so.

Chlorazaine is being used quite extensively. It has a germicidal power fifty times greater than carbolic acid, does not cause irritation or coagulate albumen and is practically non-poisonous. This is on the market in tablets and aromatic powder; of the latter a solution of two teaspoonfuls to quart of water, and thoroughly saturate the diseased area. Tablets, one to one ounce makes a 1 per cent solution for more severe cases, follow same directions.

Displacements as a cause or complication of

cervicitis may be treated with the various types of pessaries, or by operation, and shortening of ligaments or breaking up of adhesions, or a repair, if there is a vaginal or cervical laceration which is one of the most common causes. Douches of mild astringents and tampon supports often overcome the misplacement and tones up the tissue. The knee chest position, five to ten minutes each night, keeps the parts in restful position during the long reclining hours. Adjacent inflammations, excessive coitus, or masturbation, which lessens uterine tone causing endometritis and later cervicitis can only be relieved by eliminating the cause.

General condition may be below par from blood disorders, chiefly anaemia, chlorosis, phthisis, nephritis, rheumatic, syphilitic. In many of these cases the mucous membranes show a special liability to obstinate catarrh so that our treatment depends on general building up of the patient that the local treatment may be effective and stay so. Bad hygiene, indoor confinement, indolent habits, faulty dress, dissipation, unhealthful occupations are causes of many cervical catarrhs that come on slowly and also slow to recover. Correcting the exciting causes by close attention and good advice overcomes many poor conditions without a lot of medical treatment. Twenty minutes lying down with complete relaxation twice daily—sleeping isn't necessary—I find is a great aid in gaining general strength and making uterine organs more healthful. A regulated diet of proper food at proper times aids materially. A tonic of one of the iron preparations as the case may demand is effectual for early recoveries.

Gonorrhea is one of the most common causes of cervicitis and usually an obstinate case develops before the physician is consulted. The patient should be instructed to thoroughly douche the infected area with zeratol one dram to two quarts water 100° F. before coming to the office. The cervix may be well swabbed with a solution of potassium permanganate for cleansing purposes and apply silver nitrate 10 to 20 per cent or 20 per cent protargol. Douche should then follow every four hours during most acute stage. After two or three weeks use of zeratol it is well to change to ordinary soda douches; one teaspoonful to quart of water. I find a daily treatment by the physician is the most satisfactory and often prevents the infection from extending to the tubes and causing salpingitis, and later the removal of these parts.

The use of radium in cervicitis has shown many flattering results especially in deep excoriations and persisting hemorrhages of the cervix.

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IOWA STATE MEDICAL SOCIETY, 1921

The Seventieth Annual Session of the Iowa State Medical Society will be held May 11, 12, 13, 1921, at Des Moines. At each of these annual gatherings, we may take an inventory of our accomplishments during the past year, and a wider retrospect covering any number of years. Every year brings in new men and the retirement of others. The younger men who must bear the burden of the Society's activities, come unhampered by the traditions of the past and bring their ideals of present needs and policies. But it must be remembered that the ideals of the present must in some degree be based on the ideals of the past. In 1850 twenty-five members of the medical profession gathered at Burlington to consider the needs and the policies of the profession in Iowa, and one of the fundamental principles related to medical education, and has never been lost sight of to this day.

The progress in medical education during these seventy years need not be dwelt upon, but it is sufficient to assure us of the great service the State Medical Society has rendered to the public, however little it may have been appreciated. I am not one who because of the strange things that have happened, have lost faith in the public's estimate. In general terms, we have received all we have earned.

In 1850, there were twenty-five members, in 1921, 2336. Then the medical profession was afflicted with Homeopaths, Eclectics, Thompson-

ians and other kinds; the affliction was of a most grievous character, and caused much mental distress among the professors of regular medicine. Now most of these have become physicians and are our friends and neighbors. Then came the Osteopaths with their strange doctrines and one idea. They are now rapidly becoming our friends and neighbors and soon will become practitioners of medicine. Christian Science we have always had in some form or other and always will have as long as we have disordered psychic manifestations or, as Bandler would say, disordered endocrines. Christian Science is neither for or against us, it is a disordered mentality, why should we regard them except as cases of unbalanced endocrines? Now comes a new apostle of the healing art whose disordered imagination places him with Christ, a new Messiah, who is taking over in the twentieth century what Christ did in the first century. He announces himself, that he is "doing the work of our Lord Jesus Christ." It is admitted however that his financial policy is somewhat different. It is said that in his office, there is a picture of Palmer, Christ, and Lincoln side by side with the following legend.

"Christ healed a few; Palmer heals everybody; Lincoln freed the slaves; Palmer frees humanity."

"If this is true, we as medical men are only interested in the condition of the endocrines of the clergymen who have accepted this relationship.

In Illinois there was at one time a group of men and women with disordered minds who called themselves Doweites. Where are they now? In museums with Perkins tractors we suspect.

But this has nothing to do with medical education, only evidences of individual or group mental disorders, interesting only as a psychological study similar to psychic manifestations in the middle ages. It only shows that in the advancement of Civilization there are, and must be, partial reversions to more primitive periods in the history of the world. So let us not worry over those strange reversions, they are the natural order of development and must be expected, but let us keep constantly in sight the principles of our organization, the promotion and advancement of medical education, medical science and practice.

In 1921 we have more serious problems to consider than a group psychosis, these are, the cost of medical education, inadequate financial rewards and increasing danger in the practice of medicine, a group of conditions that is liable to create a shortage of physicians in the near future to the great disadvantage and hardship of the public.

We are told that the cost of a medical education

is between \$10,000 and \$20,000 and the expenditure is in the first productive years of a young man's life. Then comes a period of small returns and relative large expenses; how long this relation may last in individual cases is difficult to predict. There is no certainty that even moderate success will ever come, the unknown personal factor enters larger in this than in any other calling or profession. There are strong and determined men who successfully meet every obstacle, but unfortunately there are not enough men of this class who will choose medicine as a career. The conditions of medical education cannot be changed, therefore the young man should as carefully measure his financial resources as he would in any other investment. The filling of the medical profession to some excess in numbers, occurred when a common school education and an apprenticeship in a doctor's office for three years and two courses of lectures of twenty weeks each in a medical college was sufficient. A failure with such a preparation was not a tragedy, now it is quite different. It would seem therefore, that only those who are well to do should consider the study of medicine. The time has not come when state aid should be considered, beyond the large expenditures necessary to equip a medical school.

In the matter of compensation medical fees have probably reached their maximum, if not already passed the ability of the people to pay.

An element of danger to the medical practitioner that has been but little considered, except by the individual doctor, and that is the claim for damages when the results of treatment are not satisfactory, or when something has gone wrong, or the patient's or family's feelings have been disturbed, or when the patient thinks he can avoid a fee, or when he can gain something, by threatened or actual suit. Most state societies have some form of medical defense. Some are useful and efficient, others are of but little advantage. From our own observation and experience medical defense should be regarded as a means of lessening the dangers surrounding medical practice and then a liberal interpretation should be placed on what may constitute a danger. It would not be fair that the medical society should be taxed to pay for careless or negligent conduct of careless members, any more than an accident insurance company should continue to carry careless risks.

When we think of the difficulties and embarrassments of the medical profession, we should remember that we are not alone, all classes of society are equally in trouble and looking anx-

iously for some solution. We are perhaps more vulnerable because of the long traditions that have in a measure fixed the relations of the medical profession to the public, and the large sums of money that are paid by the public for our professional education in late years. We have some great advantage in that the medical profession is made up of a body of educated and intelligent men who can direct their efforts to meet the changing conditions, and there is little danger of the State Society adopting radical measures that will lessen the respect the public have for us. There are of course radical would-be-leaders who would perhaps lead us astray, but their following will be a minority following.

From time to time new plans touching the practice of medicine come to our notice. Sometimes plans are presented which will increase the comforts and rewards of the doctor. Sometimes the plan includes a benefit to some business or financial enterprise. But it is quite certain that industry, attention to business, prudence and foresight still have their ancient value. When "Good Business" and schemes comes along for revolutionizing the practice of medicine they could well be laid aside for future consideration. When these propositions come to our notice we enjoy writing them up and ask the proponents to furnish us a definite statement of plan of operation, even at the risk of criticism for using our pages for questionable purposes. There is more danger from concealed and insidious "workings" than from open propaganda. When plans are written up they are open for discussion, and they sometimes look different to the originator when written out than when being thought out and become subject to material revision. We, ourselves, have thought out some very excellent editorials but when reduced to manuscript were found better suited to the waste basket.

Evolutionary changes must necessarily occur in the practice of medicine and may come from various sources, as has already occurred. The one that is receiving the greatest attention at the present time, and if it is accepted, will serve as an answer for all the others that are being presented; is the grouping of men for professional and business purposes. If congenial persons representing different branches of professional work will group together in some form of partnership, much will be gained in efficiency and in personal comfort and satisfaction. In this number will be found a very able paper by Professor Barker of Johns Hopkins. In this address will be found the argument for it, as well as of the objections and an answer to the objections.

We feel sure this paper will have a material influence in bringing about a better condition among the younger men of the medical profession and an answer to many of the perplexing questions before the profession.

**IMPRESSIONS OF THE SCOTTISH MEMBER
OF THE CONJOINT BOARDS OF ENGLAND
AND SCOTLAND AND OF THE
UNIVERSITY OF PARIS**

In a previous number of the Journal, we abstracted the report of M. M. Roussy and Desmarest from *La Presse Medicale*, now we take pleasure in abstracting from the *Edinburg Medical Journal*, the impressions by Norman Walker, L.L.D., M.D., F.R.C.P., direct representative for Scotland on the General Medical Council.

"After a pleasant voyage we reached New York on the afternoon of the 19th of April and were met by Dr. Walter L. Bierring, Secretary of the National Board of Medical Examiners. He came provided with authority from Mr. McAdoo of the United States Treasury, and our passage through the Customs was easy."

After complimentary receptions in New York and Washington, they "embarked" on their long journey to New Orleans. "We found the Association of American Military Surgeons in session, attended their meetings, which dealt with an abundant variety of topics, and were honored by election as honorary members, and on the following week attended the meetings of the American Medical Association."

It is understood that the American Medical Association has no legal authority over the practice of medicine either direct or delegated, it only reflects the sentiments of the profession of the United States and its position on any subject is directed by the vote of the House of Delegates. Something more than ten years ago a campaign was organized to improve the conditions of medical education and placed under the control of the Council of Medical Education. It should be remembered that improvement in medical education was one of the fundamental purposes in the organization of the Association.

After some preliminary observations Dr. Walker refers to classifying schools into A and B classes. "This classification is the work of the Council on Medical Education of the American Medical Association and very notable in its results. The American Medical Association is, like our British Medical, an entirely voluntary body but it has behind it in this matter the weight of the entire medical profession. The readiness with

which the medical schools submit to the inspection of this voluntary body (in the United States) is illustrative of the generally cordial spirit of co-operation for the public good of which we came across instance after instance during our journey."

After enumerating the various medical schools visited, four schools are mentioned in particular, Iowa City, Ann Arbor and Minneapolis which are under the care of their respective states, and that of Cincinnati which is controlled by the city. In Great Britain the control over medical schools is exercised by the Medical Act of 1858 "establishing a Council of Medical Education and Registration for the United Kingdom of Great Britain and Ireland, which defines the conditions of admissions to the Medical Register, an annual publication which enables the public to distinguish between qualified and unqualified practitioners."

Referring to Boards of Medical Examiners in the different states which exercise control over medical education within the boundaries of the respective states, the writer states: "The boards are composed of from five to nine members and are nominated by the governor of the state. When some people mention this to you they scowl and say in a bitter tone—politics, ha, ha. I was not impressed by this. I think some of the laws are very unfortunate in the conditions they lay down, e. g., in one very famous state of the Union, where the board consists of seven members, it is stipulated that not more than four of these may belong to any one school of medicine, and so only four regular physicians sit on that board. This is the fault of the law and not of the governor and the weakness is not inherent in the nomination system."

"I suppose there is no body of men whose repute stands higher than that of British judges and yet their appointments are almost always political. It is much more unfortunate that most, if not all, the laws specify that no members of the board must be connected with any teaching school and so the chief source of supply of really competent examiners is cut off." (We are led to infer that the fault lies with the voters who elect the law makers.) The requirements of the boards of the several states are set forth in considerable detail to show the conditions under which the National Board of Medical Examiners of the United States operate.

Dr. Walker comments on the enterprise and courage of the National Board in "recognizing that if they waited for federal legislation they might wait till this century was in its dotage or its grave; and they decided to make bold, to go

ahead, to show the thing was feasible, and so to make the path of legislation easier." He notes that the relations between government departments and the profession are closer with us than in England and the National Board was able to utilize the services of the medical departments of the Army, Navy and the Public Health Service. He also shows that this unofficial and voluntary board has been accepted by twenty states, and several others are arranging certain technical changes in their laws for this purpose.

The difficulties in the operation of so many state boards worked great hardship on the profession, which could be obviated by the National Board. The advantages of a license from a high standard board which will permit the holder to practice in any state are too obvious to need argument.

Reference is made to the three medical schools and hospitals owned by the states of Iowa, Minnesota and Michigan, Dr. Walker says: "I made very particular and repeated inquiries as to the working of this system, and I was assured by every one that it worked smoothly and most satisfactorily." We are much interested in the comments on our own university; "The pretty little town of Iowa City, a town of, I should say, 10,000 inhabitants, once the capital of the state, now transferred to Des Moines, contains a hospital of about 250 beds, and a children's hospital, not yet completed but partly occupied, which I think might challenge comparison with any in the world. The state, which is responsible both for the university and the hospital, arranges for the transfer to this hospital of suitable cases from all parts of the state and the result is that the supply of cases for teaching is exceptionally adequate."

Referring to the University of Cincinnati, another public owned institution, being owned and controlled by the city. Dr. Walker says: "I was particularly interested in Cincinnati because in that city the university is, as in Edinburgh, the town's college. The city is responsible not only for the hospitals but for the financial arrangements of the university, and I was assured by the president of the university, in reply to my public question, pressed, I fear, by supplementary questioning which may have seemed strange to some of those present, that there had not been the slightest friction between the city and the university in this dual arrangement and that he did not see any reason why there ever should be."

In reviewing the reports of these committees, we placed special stress on our state university medical schools; first, because we feel a special interest in them for local and personal reasons;

and second, because we have never entertained the often expressed fear of politics getting into public owned utilities. It appears from these reports, taking everything into consideration, the State University Medical Schools of Ann Arbor, Minneapolis and Iowa City, and municipality owned medical school in Cincinnati have distinct advantages over our other medical universities, not only as to the present, but for the future.

Dr. Walker closes his report with observations which must be very gratifying to American physicians and when compared with the estimate placed upon American medical institutions only a few years ago by Europe, Canada, South America, and even by Mexico should make us feel notwithstanding the petty embarrassing and annoying things that have occurred that we have made great progress in the professional world. Dr. Walker says: "The main object of our visit to America was to see the standard of medical education now attained in that country, and to inspect the examination of the National Board of Examiners so that we might report to the British Licensing Boards how far it might be recognized."

"I am glad to say that my colleagues were equally impressed with myself, and we have each recommended our boards that American physicians who hold the certificate of the National Board may be admitted to our final examinations without further question."

DR. PORTERFIELD DECLARED NOT GUILTY

The medical profession of Iowa and out of Iowa will be pleased to know what everybody believed before, that Dr. Porterfield was not guilty of the criminal act charged against him. These cases are extremely serious on account the disadvantage the doctor is under. A considerable part of the Doctor's work is under the bond of secrecy, the law recognizes this in the statute governing "Privileged Communications" to encourage patients to reveal to the doctor facts he should know to reach a proper diagnosis and treatment. It too often happens that for the purposes of blackmail, or gratifying a feeling of revenge or for some other reason, prosecutions for criminal acts are commenced and no doubt many a professional reputation has been ruined.

A doctor cannot carry on his work in an open manner as does the groceryman, for obvious reasons, but in view of what has so often happened the doctor is reminded of the watchful care he should exercise in dealing with certain class of patients. We make this as a general observation

not referring to Dr. Porterfield in particular, but as showing how it is possible for a physician in high standing and of mature experience to become the subject of a malignant attack. In this case the gross and malicious character of the witness should have been sufficient to protect Dr. Porterfield from prosecution, but it was not, thus again emphasizing the danger surrounding the practice of medicine.

We are not congratulating Dr. Porterfield for his escape, but expressing the pleasure we feel is his being able to show so thoroughly the malicious nature of the charges.

AN OSLER INSTITUTE

As an expression of the world's indebtedness to Sir William Osler as a physician, a teacher, and an investigator, it has been proposed by a number of representative members of the University of Oxford and of the medical profession that there be established an Osler Institute of General Pathology and Preventive Medicine. Such an institution would be an appropriate memorial to Osler's life work; for although during the early part of his career his chief interest was in pathology, he later became an enthusiastic believer in the future of preventive medicine. A general committee and an executive committee have been formed to direct the raising of funds; upon the response to the appeal issued by the committees will depend to a considerable extent the ultimate nature of the memorial. A memorial of this sort, of practical and daily value to the advance of medical science, would have been appreciated by Osler, whose whole life was devoted to the progress of medicine, both by his contribution to it and by his efforts to promote, distribute, and organize it. Few physicians have attained the international esteem in which Sir William Osler is held in Canada, England, in the United States, and in other countries. It is fitting, therefore, that the institute erected in his memory should be of international interest and benefit, reflecting in its purpose and ideals, as would the proposed Osler Institute of General Pathology and Preventive Medicine, Osler's nobility of character, his breadth of sympathy, and his greatness of achievement.—Journal Canadian Medical Ass'n.

SENATE FILE NO. 463

Physicians Urged to Write Legislators to Support Bill Pertaining to an Increase in the Appropriation for the Bacteriological Laboratory of the State Board of Health

Dr. D. S. Fairchild, Sr.,
Clinton, Iowa.

Dear Doctor:

Will you kindly permit me to use the columns of the Journal of the Iowa State Medical Society, to

call the attention of medical profession of the state to an emergency situation which has developed in connection with the bacteriological laboratory of the State Board of Health at Iowa City.

The emergency pertains to an urgent need for more funds to be made available as soon as possible by the state legislature.

The present annual appropriation of \$8000 has not been increased since 1917. Since that time the amount of work done by the laboratory has been trebled, and the cost of practically all kinds of laboratory supplies has been more than doubled. Last year 74,125 examinations were made.

The laboratory is able to run at the present time only because it was possible for the state board of health to appropriate \$2,000 from funds which were not used in 1919. Additional funds from this source will not be available again. Even with this addition, the laboratory will be able to continue operations only until May 1 of this year unless a further appropriation is made by the legislature.

All physicians appreciate the serious situation which will develop if they and their patients will be deprived of the aid in diagnosis rendered by laboratory examinations. In addition to the loss of life which will be sustained, there will be a marked interference with the maintenance of the public health, especially in connection with those diseases such as diphtheria where laboratory examinations are necessary to check the spread of the condition.

Provision for increasing the appropriation from \$8,000 to \$15,000 is made by a bill, Senate File No. 463. I desire to urge all physicians to write at once to their senator and representative at the state house in Des Moines, addressing the letters to them in care of "The Senate" and "The House of Representatives" respectively and urge them to support this measure.

Very respectfully yours,

CHARLES S. GRANT,
President, Iowa State Board of Health.

GAUZE SPONGE EXPELLED FROM THE URINARY BLADDER

The Journal of the Medical Society of New Jersey, February, 1919, gives an abstract from a paper read by Dr. G. Paul Larogue of Richmond, Virginia:

"Five years ago a woman was operated on and was told that the appendix and left ovary were removed and the uterus suspended. No drainage was employed. She remained perfectly well for five years and was then seized suddenly with agonizing bladder tenesmus, spasmodic incontinence of urine, and an enormous quantity of foul-smelling pus. Roentgen examination for stone was negative; there were no clinical evidences on examination. Cystostomy was not attempted on account of the violence of pain and the inability to hold water in the bladder. The body temperature varied from normal to 101 F.; the pulse varied from normal to 100. Vaginal examina-

tion detected a small mass in the right fornix. "There were no menstrual symptoms. On two occasions the patient had retention of urine, and the catheter withdrew on the first occasion a quart of foul-smelling pus containing urine, and a week later, when an attempt was made to catheterize her again, a piece of gauze was discovered in the urethra. This was pulled out and proved to be a surgical gauze sponge about two inches wide and ten inches long. The symptoms immediately subsided. In a week's time she was well, cystostomy revealing a very small, almost completely healed fistula in the right side of the bladder. The mass could no longer be felt in the pelvis. In a week the patient left the hospital, and has remained perfectly well."

ABSORPTION FROM THE URINARY BLADDER INTO THE BLOOD STREAM

Dr. J. S. H. Magonn, Jr., of the Mayo Clinic, as the result of some experiments on the passage of bacteria from the urinary bladder finds; "that absorption of bacteria through the normal bladder mucosa or the acute inflamed mucosa must be relatively slight if it occurs at all.

This fact is the more strongly emphasized by a comparison with the ease by which the bacteria pass through the pelvis of a normal kidney into the blood stream. The results appear to show that the bladder as compared with the kidney, is an infrequent source of blood stream infection. The experiments, however, have to do only with the absorption of non-pathogenic bacteria through normal tissue, Magonn admitted "that it is possible" that pathogenic bacteria, located in the wall of a chronically infected bladder, may pass into the lymph or blood stream and thence carried to other organs."

DANGERS OF ELECTRICITY IN THE HOME

Recently a well-known Lancashire business man, aged forty-four, was electrocuted while having a bath in his own home. He suffered from rheumatism, and was in the act of applying an electric vibrator to the upper part of his body when the accident happened. This vibrator was attached to an ordinary lighting socket. A cry for assistance was heard, and when the door was burst open he was found sitting in the bath grasping the vibrator and unconscious; artificial respiration was tried without success. At the inquest it appeared that one of the wires of the vibrator had corroded, with a result that the whole machine became "alive." This is not the first time that such an accident has happened in a bath room, but usually death has been due to a flaw in the electrical fittings; the victim has attempted to switch an electric light off or on while he is immersed in the water, the switch is defective, and is killed instantaneously. Dr. A. G. B. Duncan reports a fatality due to defect in a portable electric lamp connected with the lighting circuit. The lay public are so used to seeing elec-

tricity used in their homes for many domestic purposes that there is a tendency to overlook its dangers.

Further, the uses of electricity, and of all kinds of electrical apparatus, in the treatment of soldiers disabled by wounds and sickness, have become so familiar to large numbers of people of all classes, and so many unqualified assistants, male and female, have conducted the routine applications, that probably a general feeling has sprung up that all this apparatus is quite safe, and that anyone can handle these machines, and administer treatment with them, without the least danger to themselves or to others.

No doubt there is often little or no risk, but familiarity tends to breed contempt, and then an accident such as that narrated is the result. Certain it is that no treatment should be carried out which utilizes the main electrical house current, unless under the direct control of an expert. No one with the most elementary knowledge of the danger of an electric current would immerse himself in the ordinary household bath and then proceed to administer treatment from any piece of apparatus connected with the ordinary lighting circuit, nor, indeed, would he allow anyone else to attempt to insulate an ordinary bath fitted with metal water pipes and a waste pipe, and a person immersed in a bath becomes an excellent conductor for electricity. In a properly fitted bathroom the switches, lights, and wires should be so arranged that it is impossible for anyone while in the bath to touch any of them with any part of his body. Further, all these fittings should be a distance from the pipes, and care should be taken that no defect is possible and that the insulation is perfect. When an accident occurs the first thing to be done is to switch off the current, and the victim should never be handled with the bare hands before this is done. Rubber gloves are, of course, safe, but these are seldom likely to be at hand; a practical thing to do is to wrap up the hands in several folds of dry cloth before attempting to touch the person. Death results from inhibition of the heart's action, but an attempt should be made to save life by means of artificial respiration.—British Medical Journal, September 13, 1919.

REGIUS CHAIR OF MEDICINE AT OXFORD

The king on the recommendation of the Prime Minister, has approved the appointment of Sir Archibald E. Garrod, K.C., M.G., M.D., F.R.S., to be Regius Professor of Medicine in the University of Oxford to succeed the late Sir William Osler.

La Presse Medical for February 11, 1920, abstracts for the Lyons Surgical Society Proceeding a communication from M. Condamin, on the therapeutic results obtained with radium in fibromas of the uterus, being less efficient than in carcinoma. They have a certain efficacy from the point of view of the complete cessation of hemorrhages and often appreciably reduce the volume of the tumor.

UNITED STATES PUBLIC HEALTH SERVICE**Surgeon General Cumming on the Typhus Situation**

In view of the extraordinary publicity given the typhus situation at the port of New York and the erroneous impression created by some of the representations, the following statement of the facts has been made by Surgeon General Cumming, of the U. S. Public Health Service.

"The menace to this country from the introduction of typhus from Europe is not of recent development and is no greater today than it was six months ago. Even before the armistice the surgeon general recognized the potentialities of the disease spreading to the United States if adequate precautionary measures were not taken when immigration was resumed. During the past year medical officers of the Public Health Service have been stationed at American Consulates at chief European ports of embarkation to supervise measures to be applied against ships and passengers for the prevention of the spread not only of typhus but also of plague and cholera. While the measures enforced at the European ports have by no means been perfect their value is indicated in the fact that several hundred thousand immigrants have come from typhus-infected areas on several hundred ships and that out of all this number typhus infection occurred only on eight vessels. With the exception of the SS Presidente Wilson, which arrived at New York on February 1, infection on the ships was detected by the quarantine officer at New York and effective precautionary measures applied. Upon arrival of the SS Presidente Wilson at New York there were three cases in the sick bay of what the quarantine officer diagnosed as broncho-pneumonia but which later on proved to be typhus. The doctor was experienced in the detection of typhus, but the cases presented no eruption and the mistake was by no means inexcusable. Still under the custodial care of the immigration authorities the sick people were sent to the Long Island College hospital which takes care of sick immigrants, and the correct diagnosis later became apparent. Fortunately the error was discovered before the other passengers in the steerage were released, and the vessel and the immigrants were remanded to quarantine and appropriate treatment applied to prevent the spread of the infection. The incident was unquestionably deplorable, but it indicated neither a breakdown of the New York quarantine station nor any unreasonable laxity.

The system of quarantine protection developed by the Public Health Service consists of a double line of defense, first the medical officers at foreign ports who supervise preventive measures specified in the United States Quarantine Regulations, and, second, the facilities at United States quarantine stations. If infection evades the first barrier, the ship still has to undergo inspection and treatment at her American port of arrival.

Several weeks before the arrival of the SS Presidente Wilson the surgeon general had taken very definite steps to strengthen the quarantine defense at

European ports by having American consular officials instructed, through the state department, to withhold bills of health from vessels whose passengers had not been satisfactorily disinfected. As early as January 17 quarantine officers at Atlantic ports were advised that on account of the unsatisfactory delousing procedure carried out at Danzig all passengers arriving at their ports should be held in quarantine and treated for the destruction of vermin. It must, therefore, be evident to any fair-minded person that the federal health authorities have been most diligent in carrying out anti-typhus measures, and that any statement that either the Federal Health Service or the state officials of New York have been derelict or indifferent to the typhus situation is obviously untrue. Nevertheless administrative efforts of this sort cannot be expected to be perfect or to eliminate mistakes by individual officials.

Typhus is not transmitted by lice in general but only by lice that have previously bitten persons infected with typhus. A louse is by no means an exotic insect, as one might infer by some of the interviews in New York papers. It is widespread throughout the United States, but it found chiefly in the slum districts of large cities. In the absence of typhus it is of no sanitary significance or danger so far as the present situation is concerned. Typhus fever develops in four to twelve days, and it is readily apparent to any trained sanitarian that if cases do not develop within this period it can safely be asserted that the infection is not present. This applies particularly to overseas vessels that have been out twelve days or more.

Much confusion has resulted from the statements in newspaper interviews in New York City as to responsibility of the immigration service at Ellis Island for the exclusion of typhus fever. Immigration officials are not vested with any authority administering quarantine laws. Furthermore they have no equipment for enforcing quarantine measures: naturally so because they have control over aliens and not over citizens of the United States, although the latter returning from Europe are just as serious a menace from the typhus standpoint as is an alien. It is true that Ellis Island has always proved a valuable line of second defense for the port, but the responsibility for the exclusion of typhus and other quarantinable diseases rests solely upon the quarantine authorities. As a matter of ordinary decency and personal hygiene delousing facilities should be provided at Ellis Island, but since the prevention of the introduction of typhus relates to returning citizens as well as aliens, the quarantine station is the one place where effective preventive measures can be carried out.

As to the statement that "one infected immigrant might spread a plague that would cause a million deaths in six weeks in New York" it is interesting to note that, while not generally known, typhus fever has existed in New York City for years. About 1910 Dr. Nathan Brill recorded a series of somewhat less than 200 cases which he had observed in the previous

ten years, and during 1911 thirty-four such cases occurred in New York City, and others have occurred from time to time since that date. For the most part they were of isolated occurrence and indicated that conditions in New York City were not conducive to any serious spread of the infection. Goldberger and Anderson of the U. S. Public Health Service, in 1911, demonstrated by laboratory tests that the so-called "Brill's disease" was identical with old-world typhus; that the clinical manifestations were very similar but much milder in type, that the disease was transmitted by the louse in the same way as old-world typhus, and while not so virulent, sometimes resulted fatally.

The Chicago Medical Recorder announces that the Executive Committee of the Mississippi Valley Medical Association has selected that journal as its official organ and that all the papers, discussions, proceedings and announcements will be published in its columns.

The next meeting will be held in St. Louis early in October, 1921.

The Boston Medical and Surgical Journal in an editorial notice in December 30, 1920 number presents the condition of the medical practitioners of Petrograd.

During the recent typhus epidemic in Petrograd, the mortality among physicians attending these cases was between 45 per cent and 50 per cent, while the mortality for the whole city was between 8 per cent and 9 per cent.

All physicians have been nationalized and are government employes, not being allowed to engage in private practice. The official monthly wage is between 5,000 and 6,000 rubles, plus a double food ration, which includes one-half pound of bread a day. The physicians have one public meal a day, consists of soup and horse meat. On this diet they have carried out their onerous duties, which have increased greatly by reason of epidemics of cholera and dysentery in the summer and small-pox and typhus in the winter.

Of the 4,000 physicians resident before the war only 800 are left, most of the rest have died of starvation, over-work, or have been victims of the various epidemics. Their work is usually done on foot, the trams being so infested with lice that their use entails great danger of contracting typhus. The cost of a horse and vehicle is 2,000 rubles an hour, and the few motor cars left cannot be used by physicians.

ANTI-VIVISECTION BILL IN CALIFORNIA

To the great credit of the people of California a bill to control or prevent vivisection submitted to the voters of the state was defeated notwithstanding the expenditure of large sums of money and an active and extended propaganda by anti-vivisectionists in its favor.

A PLAN FOR COMMUNITY HOSPITALS

Dr. W. J. Mayo, a member of the Board of Regents of the University of Minnesota, placed before the board at its last meeting a plea for community hospitals throughout the state, working in conjunction with the Medical School of the University. A committee was appointed to consider the plan.—*Journal Lancet*.

INCREASE IN MEDICAL STUDENTS IN GERMANY

It has been reported that there is at present an extraordinary increase in the number of medical students in Germany. Whereas in the summer term of 1907 there were 7,500; and in 1914, 15,660; in 1919 their number exceeded 19,000. As the number of medical men in 1913 was 34,000, it may be calculated that there will be approximately 48,000 in 1925. Female students and practitioners, whose numbers are constantly increasing, are not included in these figures.

DISTRESS AMONG AUSTRIAN MEDICAL FAMILIES

The London *Lancet* is endorsing relief for medical men and their families in Vienna. The following letter from a university lecturer is published; "Whatever you may have heard or read about our condition is far from exaggerated, but rather underestimates the state of our misery. The exchange alone (the English sovereign being formerly twenty-four crowns and now 950) is an indication of our extreme poverty. We hunger and freeze—for six weeks (March 1st) I have seen no coal and it is a wonder that I can summon energy for work. Indeed, there is a danger of falling into a state of complete lethargy. Being father of a family I venture to make use of your kind offer. If you could send us corned beef, flour, fat, and condensed milk, you would do us a great service. It is distressing to think of a proud profession being reduced to such conditions of poverty.

Contrast this with the condition of our own profession with all its hardships.

MEDICAL EDUCATION IN NEW YORK

For the purpose of promoting medical education in the United States, an Association for Medical Education has been formed with a fund of fifty million dollars. The purpose is to coordinate the medical resources of American medicine both for undergraduate and graduate medical teaching.

The officers of this association are: President, Dr. Wendell C. Phillips; first vice-president, Dr. George D. Stewart; secretary, Dr. Haven Emerson; treasurer, Arthur F. Chase.

SUPPLY OF NURSES

Various opinions have been expressed why there is a shortage of nurses. To reach some kind of a conclusion why more young women do not enter the service, the New York Department of Health sent out a questionnaire, seventy-two hospitals responded as follows:

"Increased vocations for women, ten; better commercial prospects, fifteen; term of training too long, six; severe requirements, eleven; low pay, twenty-seven; long hours, twenty-two; labor conditions, nine; educational requirements, nine."

In the seventy-two hospitals represented in the answers the average term of training is twenty-nine months, twenty-six days.

IOWA STATE UNIVERSITY NEWS

Dr. Don M. Griswold

William H. Clary, who graduated from the College of Medicine in 1912, and who has been doing post graduate work in the Children's Hospital during the past year, left last week for Philadelphia where he will take up the practice of pediatrics as a specialty.

Dr. E. M. Medlar, professor of pathology, University of Tennessee, is one of the recent additions of the University Hospital staff. Dr. Medlar was formerly hospital pathologist at the University Hospital and his many friends about the hospital are pleased with his return.

The new autopsy room at the University Hospital has been completed and now offers fine facilities for studies in autopsy technic.

The program for the alumni clinic, this year on April 12 and 13, is particularly attractive and should draw a large attendance.

Dr. L. W. Dean, dean of the College of Medicine, was recently in New York to preside at the annual meeting of the American Rhinological, Otological and Laryngological Society.

The third annual meeting of the Iowa X-Ray Club will be held April 14, 1921, following the alumni clinic on the 12th and 13th. This arrangement was made to facilitate the attendance at both meetings by those interested in either line of work.

The program for the meeting of the X-Ray Club is as follows:

- 9:00 A. M. The Radiogram as a Determinant in Dental Infections—M. J. Hubeny, Chicago.
- 10:00 A. M. X-Ray Diagnosis of Kidney Tumors—A. B. Moore, Rochester.
- 11:00 A. M. The X-Ray Findings of Insignificance in Searching for Incipient Tuberculosis—Hallis E. Potter, Chicago.

1:30 P. M. The Roentgen Analysis of Bone Shadows—Edward H. Skinner, Kansas City.

2:30 P. M. The Method of Preparation of Radium Emulsions for Therapeutic Application—Charles H. Viol, Ph.D., Pittsburgh.

3:30 P. M. Observation on Adhesions of the Pericardium—Edwin C. Ernst, St. Louis.

At 12:00 o'clock there will be a luncheon at the Hotel Jefferson where those attending the meeting will have an opportunity to meet the speakers on the program and to carry on informal discussions at that time.

SOCIETY PROCEEDINGS

Blackhawk County Medical Society

At a meeting of the Blackhawk County Medical Society held January 11, 1920, a motion was carried endorsing the resolution of committee regarding the elevation of fees of railroad companies and fraternal insurance companies—the revision of workman's compensation law, and to discontinue contract practice not approved by the American Medical Association.

Boone County Medical Association

The Boone County Medical Association were guests of Dr. M. A. Healy at his rooms in the First National Bank building.

Following the regular business meeting the members were invited by the host to adjourn to the tea room where a delightful two course dinner was served.

Davis County Medical Society

The Davis County Medical Society met at the Dr. H. C. Young office at Bloomfield, Monday evening, February 8 in a business session. Officers elected for the ensuing year were: President, Dr. Claude Power, Pulaski; vice-president, Dr. Clara L. Cronk; secretary, Dr. H. C. Young. The society expects to hold meetings at which programs will be featured when the roads are in better condition.

Greene County Medical Society

Greene County Medical Society held a clinic at the court house recently. The following program was given: Paper, Eclampsia, Dr. J. R. Black; Case, Heart, Dr. C. W. Blake; Case, Bone Disease, Dr. Geo. Franklin; Case, Heart, Dr. Hamilton.

Mahaska County Medical Society

The Mahaska County Medical Society met Monday evening, February 7, for a business session. There was a full attendance and matters pertaining to society and also the hospital were discussed.

Story County Medical Society

At the regular meeting of the Story County Medical Society, February 23, 1921, the following officers were elected:

President, Dr. Bush Huston of Nevada; vice-president, Dr. H. Haerem, Story City; secretary and treasurer, Dr. B. G. Dyer, Ames.

Delegate to State Society, Dr. B. G. Dyer, Ames; alternate, Dr. H. S. Smith, Nevada.

Dr. Haerem presented a very able paper on the control of preventable diseases. Dr. D. M. Ghrist, Ames, presented a discussion of new methods of x-ray work, with a large number of interesting plates. The meeting was a dinner session at the Sheldon-Munn Hotel.

B. G. Dyer, Sec'y.

Tama County Medical Society

A meeting of the Tama County Medical Society was held in the commercial club rooms of Tama, Monday morning, February 21, with the following members present: Drs. Benjamin Thompson, W. E. Carpenter, R. H. Whalen, M. L. Allen and H. H. Sievers of Tama and Drs. A. A. Pace and Jacob Breid of Toledo.

Upper Des Moines Medical Society

The winter meeting of the Upper Des Moines Medical Society was held in Estherville January 27 according to schedule. About twenty of the doctors of the association were present. The association takes in the counties of Palo Alto, Emmet, Dickinson and Clay. The Estherville doctors entertained the visitors at luncheon at the Gardston Hotel.

Iowa Society of Clinical Medicine

The Iowa Society of Clinical Medicine met in Grinnell Saturday, February 26, as guests of Dr. E. S. Evans and the Grinnell Clinic. This organization is composed principally of doctors who are specialists, either in internal medicine or in laboratory work, and numbers among its members the most noted consultants in the state.

A clinic was held at the Community Hospital in the morning at which the members of the Hospital staff presented cases and case reports. Following the morning program a delightful dinner was served at the Country Club, after which the morning program of cases and reports was discussed in detail, each man present being expected to make some observation concerning each case. Following the discussion the usual business meeting was held and the remainder of the afternoon was spent in inspecting the Community Hospital and observing the cases under treatment there. An evening lunch was served at the Antlers.

The fact that the Community Hospital is in process of becoming a "Standardized Hospital" and that it has an efficient working affiliation with the Grinnell Clinic together with the fact it is paying its way, make it a unique institution in its class. It is more than merely a boarding house for sick people; it is a

place where the doctor can have available any information concerning his patient for which he cares to ask, as there is available a completely equipped laboratory in charge of competent workers, a condition existing in practically none of the hospitals of this class in the state. The working plan of the Grinnell Clinic also excited much admiration and arrangements were made for delegations of doctors from other places to visit the Clinic in the near future to observe the working of it in actual practice.

The morning program was as follows:

Report of Case of Acute Primary Mastoiditis, Complicating Diabetes in a Child, Dr. C. H. Lauder.

Reports of Radium Treated Cases with Demonstration of Cases, Dr. P. E. Somers.

A Case of Atypical Tabes, Dr. E. E. Harris.

Encephalitis, with Hemiplegia Deafness, Drs. E. E. Harris, C. H. Lauder.

Report of Case of Periuterine Thrombosis with Autopsy Report, O. F. Parish.

Demonstration of Case of Paroxysmal Tachycardia, Dr. Lewis Hopkins.

Demonstration of Cases of Delayed Development. Reports of Cases of Clinical Errors, Dr. E. S. Evans.

Dr. E. E. Harris was elected to membership in the society at the business meeting in the afternoon.

The following members were in attendance: Dr. Rendelman of Davenport; Dr. Murray, Cedar Rapids; Dr. Van Epps, Iowa City; Dr. Davis, Iowa City; Dr. Gatewood, Iowa City; Dr. Rohrer, Iowa City; Dr. Edgerley, Ottumwa; Dr. Waterbury, Waterloo; Dr. Van Winkle, Cedar Rapids; Dr. West, Cedar Rapids; Dr. Field, Ft. Dodge; Dr. Weingart, Des Moines; Dr. Doolittle, Des Moines; Dr. Meise, Sioux City; Dr. E. S. Evans, Grinnell.

AMERICAN CONGRESS ON INTERNAL MEDICINE

At the annual meeting of the members of The American Congress on Internal Medicine, held at Baltimore, February 21-26, the following officers were elected: President, Dr. Sydney R. Miller, Baltimore, clinical professor of medicine, Johns Hopkins University; vice-president, Dr. Ellsworth S. Smith, St. Louis, professor of medicine, Washington University; second vice-president, Dr. James Rae Arneill, Denver, professor of clinical medicine, University of Colorado; secretary-general, Dr. Frank Smithies, Chicago, associate professor of medicine, University of Illinois; treasurer, Dr. Clement R. Jones, Pittsburgh, professor of medicine, University of Pittsburgh.

MEDICAL NEWS NOTES

Hotel Colfax will be used as a hospital for the rehabilitation of disabled former service men, according to an announcement made by Uel W. Lamkin, director of the federal board of vocational education. The order calling for the taking over of the hotel by

the government was signed Wednesday by the surgeon general of the army. It is now awaiting the signature of the secretary of the treasury, the signature, however, being only a matter of routine.

The deal between the government and Col. J. P. Donohue for the transfer of the hotel Colfax to the government has been completed. L. V. Hysan as the representative of the government, closed the contract. Under it, the government takes a lease on the property at \$4,500 a year with an option to buy in ten years for \$150,000. It will be fully equipped within sixty days for the care of 1,500 disabled soldiers.

A physician is under no obligations to use an x-ray machine in treating a patient with a steel sliver imbedded in his chest, according to the verdict of a jury in district court finding for the defendant in the case of Walter McGill vs. Dr. L. J. Porstman.

McGill filed suit to collect \$1300 damages because Dr. Porstman failed to remove a small piece of steel which had become lodged in his chest. The use of an x-ray machine entered into the case to the extent of determining responsibility.

Attorneys for the plaintiff argued that Dr. Porstman, having no machine of his own, should have sent McGill to some brother physician who owned an x-ray apparatus for the purpose of locating the troublesome steel particle.

The defendant's attorney's contended that the physician was not negligent in treating McGill as the latter averred and that the x-ray machine had no part in the case.

Work on the new \$400,000 addition to the Iowa Lutheran Hospital, Seventh and Parnell streets was begun February 28. The new addition will double the present capacity of the institution which is 100.

The first building to be erected will be a nurses' home. A portion of this building will be utilized as a hospital ward until the additional hospital unit itself can be erected. The new unit will not be completed until the end of the year, officials of the hospital stated.

The additional space will be used principally in caring for women and children.

The Iowa Lutheran is said to be the first hospital in the city to institute the standardized methods in conformity with the recommendations of the American College of Surgeons. It is also one of the pioneer hospitals in the state in this movement.

Animals' lives are considered just twenty-five times as valuable as human beings in the opinion of the house of representatives. If their action on two bills this morning may be taken as a criterion.

Two hundred and fifty thousand dollars was appropriated to fight disease in live stock by the terms of the Knickerbocker bill, and \$10,000 was appropriated for the dissemination of information regarding tuberculosis in human beings, according to the terms of the Peters bill, both measures being passed by the house today.—Des Moines Register.

HALF CENTURY IN PRACTICE

Medical Society Celebrates Dr. C. B. Powell's Long Service with Banquet

Thursday evening, February 3, the Monroe county physicians met in the Commercial Club rooms and tendered a banquet to Dr. C. B. Powell who has just rounded out a service of fifty years in the medical practice in Iowa, most of which has been spent in Albia. He began at Russell as a young man and came to Albia and bought what was known as the Col. Hurd residence on Benton avenue east where the U. M. W. A. temple now stands and directly opposite his present beautiful home, one of the finest in the city. Dr. and Mrs. Powell entered into the social life and were leaders of its best circles and lived to rear a son, Dr. Burke Powell, who is practicing medicine with his father. The doctor's daughter, Mrs. Chas. Prizer, lives in the home and last summer the family gave up the wife and mother who had been so much to them and to the community at large and who would have enjoyed seeing the anniversary that spoke of fifty active and useful years for her husband in his profession.

Those present were as follows: Dr. G. A. Jenkins, Dr. H. C. Eschbach, Dr. Taylor Jackson, Dr. T. J. Avery, Dr. Burke Powell, Dr. S. T. Gray, Dr. J. M. Griffin, Dr. Sue B. Gantz of Albia; Dr. J. B. Hungate of Hiteman; Dr. John F. Gray of Hocking, and Dr. J. F. Stafford and Dr. C. C. Fowler of Lovilla, all of the above being members of Monroe County Medical Association. Albia dentists: Dr. Gantz, Dr. Scott, Dr. Craig, Dr. Ott and Dr. Robb. Other guests were Mr. Chas. Prizer, Albia; Dr. Spillman, Dr. Bert La Force, Dr. Bannister, Dr. Wellstead, Ottumwa; Dr. McClure, Bussey; Dr. Parks, Tracy; Dr. Stannton, Chariton.

The doctor was presented with a handsome gold headed cane as a memento of the happy associations in the past. The cane was inscribed: "Friends of Dr. C. B. Powell, 1870-1920."

PERSONAL MENTION

Dr. Emery E. Magee, after a year's study in Chicago and Eastern cities, has returned to Waterloo and reopened his offices in First National bank building. Mr. Magee will specialize in the practice of obstetrics, and diseases of women and children.

Dr. T. B. Throckmorton and his sister, Dr. Jeanette Throckmorton, returned February 28 from Baltimore, where they have been attending the American College of Physicians, of which they are both members, the latter having been initiated this time.

Dr. D. C. Steelsmith, who recently sold his property in Iowa Falls will move with his family to Dubuque where he will make his home. Dr. Steelsmith will have charge of the public health work in Dubuque county, his duties starting at once. Dr. Steelsmith has been a resident of Iowa Falls since last July.

On revising the list of Iowa surgeons who served

in the war with Germany, I find Dr. Arthur Steindler who served in the United States Army Corps from October, 1918 to 1919, Iowa City and at Fort Des Moines for five months. First in Student Army Training Corps, then in Des Moines with Major John L. Porter in Soldiers' Disability Service.

Lieut. G. S. Westley says that his name is Gabriel S. Westley and not Gabriel S. Westeley and that his address is Manly and not Fort Dodge.

We are endeavoring to get our list of medical officers who served in the war, corrected as to rank, name, address and promotions. The list will be worth referring to some day.

Lieut. Aaron Conaway of Marshalltown commissioned Major September 21, 1919. Lieut. Colonel in Medical Reserve Corps December 21, 1919.

Dr. Howard H. Johnson has located in Hampton to take the place occupied by Dr. A. C. Rhine who has entered the United States medical service.

Dr. Clifford Barborka, a graduate of Simpson College and of Rush Medical College; an interne of Presbyterian Hospital, Chicago, has entered the Mayo Clinic. Dr. Barborka formerly lived in Denison. He began life in Clinton.

Dr. Nellie Noble of Des Moines attended the National Congress of Internal Medicine at Baltimore, Maryland.

MARRIAGES

Dr. W. L. McConkie of Cedar Rapids and Miss Edna E. Johnson of Spencer, July 25, 1920.

Dr. Frank B. Dorsey of Keokuk and Miss Martha J. Brookshire of Chillicothe, Missouri, February 26, 1921.

Dr. A. H. Humiston of Cedar Rapids and Miss Dorothy Schreyer of West Union, February 22, 1921.

OBITUARY

Dr. William J. Hierstein of Dyersville died in Dubuque on January 12, 1921, after an illness of two or three days' duration. Dr. Hierstein was born in Keokuk, Iowa, on July 19, 1882. He received his early education in the public schools of Keokuk. He graduated from the medical department of Valparaiso University, Indiana, about 1910. He practiced as a railroad physician at Mazatlan, Mexico, for two years. He practiced medicine at Hamilton, Illinois, later at Nauvoo, Illinois, and in 1913 he came to Dyersville, Iowa, where he practiced up to the time of his death. He was a member of Dubuque County Medical Society and of the Iowa State Society. He was buried in Nauvoo, Illinois.

Thomas Mathews Hedges, physician and druggist in Grinnell for forty-four years, was born at Bellville, Pennsylvania, on January 15, 1838. He received his education at Waynesburg College at Waynesburg, Pennsylvania. Dr. Hedges medical education began at Chariton, Iowa, and was finished at the College of Physicians and Surgeons at Keokuk in the Spring of

1865. He then moved to Grinnell where he began and continued the practice of his profession until 1909 when he found it necessary to retire and he moved to Glendale, California, where he died February 5, 1921.

In August, 1861, he enlisted in Company B of the Sixth Iowa Infantry and served for three years until he received his honorable discharge in 1864, having taken part in the battle of Shiloh and other important engagements.

Daniel Winfield Wheelwright was born in Wisconsin, September 26, 1861 and died at his home in Woodward, February 6, 1921, at the age of fifty-nine years, four months, eleven days. He came to Iowa when nineteen years of age and took up the study of medicine. He graduated from the Rush Medical College in Chicago in 1886. He was married July 6, 1895 to Miss Clara Stevens and to this union was born three sons, Robert, Milan and Burton. His wife died February 20, 1916. His son Burton was lost at sea, January 6, 1920. He practiced medicine at Lake View, Wall Lake and Monroe and came to Woodward and engaged in the same profession in 1913.

Dr. N. P. Summers, seventy-five, Civil War veteran and for thirty years a practicing physician at Van Meter, died Saturday, February 5, after a three months' illness.

Dr. L. Brown died at Pensacola, Florida, January 19, 1921.

Dr. Brown was born January 10, 1838, in Ellsworth, Ohio, and moved with his parents to Patch Grove, Wisconsin, when a small boy. He served three years in the Civil War, most of the time as a hospital steward. After the close of the war he finished his medical course, which he began before the war, at Rush Medical College, Chicago, and in the spring of 1866 he began the practice of his profession at Postville, Iowa. He was married in 1868 to Miss Ella A. Lyons, and one daughter was born to this union, who is the wife of Dr. J. O. Thrush of River Falls, Wisconsin. In 1876 Dr. Brown was sent to the legislature from Allamakee county. In 1884 he took a post-graduate course at Rush Medical College. He served three years on the McGregor pension board examiners and in 1890 moved to Rockford, Iowa. In 1900 he went abroad for the purpose of taking post-graduate work in the London hospitals. He and Mrs. Brown visited many of the principal cities of Europe.

Dr. W. H. Archer died January 29, 1921, in Fort Worth, Texas, where he had gone with his wife to spend the winter. His death was caused by influenza. At the time of his death he was seventy years, eleven months and twenty-one days. He came to Iowa with his parents from Michigan in 1853, settling in Oakfield township. He graduated from Iowa State University, M.D., in 1873. He then located in Bear Grove, where he practiced his profession until 1889, then moved to Adair, residing there until 1912. He with his family then moved to Austin, Minnesota, his home at the time of his death.

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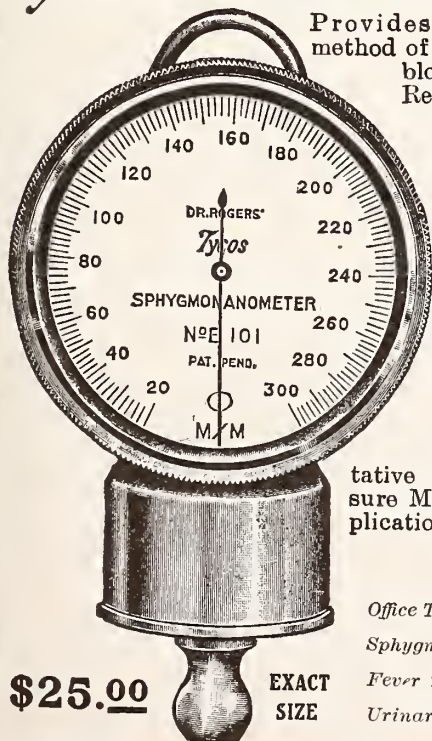
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BOOK REVIEWS

THE MEDICAL CLINICS OF NORTH AMERICA

Boston Number. Published Bi-Monthly by W. B. Saunders Company, 1920. Price Per Year \$12.00.

This number contains contributions from nineteen clinics. Three from Massachusetts General Hospital, nine from Boston City Hospital, six from the Children's Hospital, and one Boston Dispensary.

The first is a medical-social clinic by Ida M. Cannon who considers the general trend of medical treatment during the past twenty years away from pills and powders, and substitutes hygienic living and diet and proceeds to enlarge on the subject and give illustrations. The diagnosis of mitral stenosis is the subject of a clinic by Drs. White and Reed at the Massachusetts General. About one-half of the clinics relate to children, one, spastic paralysis, Massachusetts General, Dr. Stanly Cobb, one vomiting as a symptom in children, Boston dispensary by Dr. Maynard Ladd, and six from children's hospital covering as many different subjects.

A LABORATORY MANUAL OF PHYSIOLOGICAL CHEMISTRY

By E. W. Rockwood, M.D., Ph.D., Professor of Chemistry and Toxicology, the State University of Iowa, Iowa City. Fourth Edition, Revised and Enlarged, 316 Pages, Illustrated with 1 Colored Plate, 3 Plates of Microscopic Preparations and Seventeen Engravings. F. A. Davis Company, 1919. Cloth, \$2.00.

Undergraduate biochemical courses in our universities are now taken by students of home economics, veterinary medicine, animal nutrition, medicine and occasionally chemistry. Often two or more groups are thrown together for the same laboratory period. Professor Rockwood's manual, with its some 600 laboratory experiments, offers a wide choice to the capable instructor in setting exercises adapted for the several student groups, or for individual students who may be interested in special topics. The explanatory text is briefly and simply presented. The inclusion of more recent blood and urine analytical methods should make the manual of use to the clinician.

THE AMERICAN JOURNAL OF MEDICAL SCIENCES

Places at the Top of the Cover for January, 1921, These Words: "A Century of Service."

We feel an affection for this journal. Looking back over our file we find that we began our subscription in 1869; the first medical journal we ever read. Medical literature was not very accessible then in small towns, and few pages escaped us, as it appeared only quarterly, we had time to read each number over two or three times. We lost nothing by it, for then as now, everything it contained was worth reading. The book reviews were particularly valu-

able, from ten to fifteen pages were given to all important books, and we believe that we learned better how to read medical books from these reviews. They were not commercial reviews but analytical reviews. Isaac Hays was editor, and Henry C. Lea, publisher.

AN INVITATION

All Iowa Medical Officers of the World War are invited to be the guests of the Military Surgeons' Club at a dinner to be given May 12, 1921, Des Moines, Iowa.

R. Fred Throckmorton, M.D., Chairman,
A. S. Price, M.D.,
J. A. Downing, M.D.,
C. F. Smith, M.D.,
G. W. McCreight, M.D.,
Committee of Arrangements.

OUR ADVERTISERS

The present issue of the **Journal** contains a larger amount of advertising, both local and general, than any other issue published since the Society assumed ownership of the official organ in 1911. For a long time the policy of the **Journal** has been to accept no advertising copy that could not stand the acid test formulated by the Advertising Department of the Journal of the American Medical Association; hence, it is with natural pride that the advertising pages of the April issue are given to your personal consideration as an example of what advertisers will do when an opportunity is given them to display honest goods through the pages of an honest medium. That it pays to advertise honest goods is evident from the number of firms carrying space in the **Journal** from year to year. Also it is a source of gratification to point to the space allotted our local firms as an evidence of confidence that the **Journal's** ideals are high and worthy of their consideration. As a mere matter of courtesy, it is no less obligatory on your part to patronize these firms when in Des Moines, as well as the regular advertisers of your **Journal** when in need of their products, as the **Journal** stands ready to vouch for the integrity of its advertisers.

Tom B. Throckmorton, M.D.,
Business Manager.

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The Journal of the Iowa State Medical Society

VOL. XI

DES MOINES, IOWA, MAY 15, 1921

No. 5

THE MEDICAL PROFESSION SAFE- GUARDING AMERICANISM*

CHARLES J. WHALEN, M.A., M.D., LL.B.
Chicago, Illinois

The wolf at the doctor's door is about to leap across the threshold and catch by the throat the entire profession.

A long way, and an unimpeded one has been tracked by this lupine rascal. Hidden under the cloaks of compulsory health insurance, national socialization of medicine, state medicine, and sundry other acknowledged offspring of radicalism and cheap politics, only a small percentage of physicians have guessed the evil for what it is. The majority of the profession has been as gullible and unsuspecting as a thousand gross lot of Red Riding Hoods, made in Germany before the war.

And at the outset I wish to remark to those men who champion the workings of compulsory health insurance as tried out in Germany, that the most beneficial act that they can perform will be to scan the results upon the profession devolving in Germany as a result of this same compulsory health insurance. England too, can tell a tale of woe, in this respect.

Those doctors who are out of the Red Riding Hood class, the men who are awake to the dangers threatening the profession—realize that unless radical action, is accomplished speedily, before very long, too, the doctor will find himself deprived of the privilege of continuing his present occupation.

In recent years the economic status of medicine has been practically turned inside out. Figuratively speaking the physician has become a civic non-entity. Politicians have arrived at the state where with their business eyes, they regard a physician as "being in the world, but not of it," and neither politics nor "big business" has hesitated to take advantage of this condition. Through our own apathy to our own welfare, and to that of the science we serve, the medical profession is threatened with economic destruction.

That the profession would be face to face with the identical conditions now confronting us and that within a decade, I prophesied about ten years ago, and embodied my prophecy in an article entitled "The Economic Outlook for the Medical Profession." I would rather have proven a false prophet than to see so many of my forecasts existing today.

Here is the time and the place again for the many to follow in the footsteps of the few. The whole profession must awaken. Stock must be taken of present conditions and note made of the changes fermenting in social, economic and political worlds all about the subsequent effect of these new orders upon the medical profession.

It will be found that the social conditions confronting us are super-imposed upon our shoulders by interests wholly outside our own ranks. It is high time that the physicians of the country pause for official observation of the shameless manner in which the science and the men of medicine are being exploited by big business and by scheming politicians. Considered an "easy mark" to begin with, these interests proceed to make us the "goat," and endeavor to classify us as the cheapest of cheap labor. For years past, the medical profession has furnished the most servile of hired men for the great insurance companies. Now the profession is in a fair way to enter serfdom as a vassal of the state!

This is not an arbitrary statement. It is more than possible or plausible or even probable. The condition is actually on its way, and almost ready to be delivered f. o. b., on the very steps of our universities. To dissolve your doubts, review recent occurrences in politics and in commerce and their relative effect upon the doctor and his tasks. Reflect upon the compensation received from insurance companies for "services rendered." Study the wages of contract doctors, industrial physicians and other bondsmen of that ilk. Inquire about the salaries paid office-holding physicians through our municipal and state political machinery. In each of these instances the physician as an individual, or as an organization, is without voice as to the valuation of medical ser-

*Read before the Tri-State Medical Association, October 4-7, 1920, at Waterloo, Iowa.

vices. He has simply nothing to say. What a contrast to the relations between organized labor and politics! If my sight and hearing are to be believed in the latter instance, the rule is for the unions to suggest and for the politicians to comply. Here is where politics grows husky and swallows its own medicine.

Grim as comment must be upon this enslaving of the profession, these examples are but the handwriting on the wall. They record merely the beginning of the servitude of the doctor and his art. Current conditions reflect certainly upon the commercial sagacity of the medical profession and may be said to indicate a lack of ability on the part of the profession to take care of itself. Yet, in the face of the dangers that menace us in the future, present abuses are insignificant.

Current conditions corrode the profession in its individual units. The impending peril will eat into the profession as a whole. As a matter of fact, it is nobody's lookout but that of the man himself, when a member of the profession is willing to become a mere chattel on the payroll of industrial corporations, insurance companies, newspapers or similar organizations and to serve his master for a meager salary. Such action lowers the status of physicians collectively, but vitally it does not affect the mass of physicians as individuals. What is going to cut us down as individuals, what is going to be the master annihilator of the profession itself, is the purposed socialization of the physician's calling.

As I remarked at the beginning, this menace has many names—call it what you will, you do not lessen its perniciousness nor kill its venom.

Be not deceived. These socializing schemes are not confined to Russia. They are not an intangible fancy; nor the ravings of some theoretical litterateur; they are being drafted into bills to be submitted to a score of state legislatures before this very year is out. Even the Declaration of Independence hasn't kept these demoralizing conspiracies from gaining a foothold in America. California, New York and Ohio have barely escaped the bane of compulsory health insurance. Most assuredly these states will have to contend with it when their legislatures convene this winter. In Illinois, it will be introduced into general assembly, if the powerful interests are not defeated that are now working overtime to prepare a proper debut for their scheme. Why? Well, of course, politicians must have new issues. A slight value as a vote-getter is offered through these socializing bolsheviki ideas.

Compulsory health insurance has a bad past to live down. Experience shows that the physicians

were not called into consultation as to their wishes in the matter either in England or in Germany. The politicians did it without medical aid. The fate of the profession was settled beforehand. Although the profession was the organization that would be affected most vitally by the law involved, yet it was not allowed a word of assent, dissent, or protest.

Although riding under the banner of socialism, the very creed of the cult was disdained before ever the wires were lowered. It is a good example of an altruism that works only one way. Under the socializing schemes planned, the doctor is asked merely to pay the increased taxes and to render the services required at pauper prices. Physicians in the United States have a last chance to profit by the experiences of the confraternity in Germany and in England. If we pass by this chance, we will find that the only alternative will be to accept whatever conditions of slavery the politicians and the radicals prefer to impose upon us.

Those physicians who fail to come forward and rally to the cry of the clan, should be made to share the blame with the politicians of the country if the menace falls upon us. The politician cannot be held to be entirely at fault. Why should politicians and near statesmen grant the profession serious consideration, when, as a matter of fact, from a political viewpoint, the medical profession is a non-entity?

In Illinois, speaking in round numbers, there are about twelve thousand physicians. Politically, the doctors amount to less than a labor union with a membership of five hundred. Our great membership wields less influence at Springfield than do the three hundred osteopaths in Illinois.

Lack of unity and weak organization explains the scant consideration given the medical profession by big business, by labor unions, and by officials of the city, county, state, and yea, even the nation.

What the medical profession needs most is a compact, workable organization that will grapple with the economic, as well as with the scientific problems, of our fraternity. When we possess such a buckler, and not until we do, will we be able to dictate the price that should be paid for services rendered to the public through any of the agencies mentioned.

The time is at hand when we must have such an organization as this. It will be the speaking tube from the profession as a whole, to the individual physician, and through each doctor to his patients, and through the patients we will acquire the language of votes. We must make it our business to

inform the citizens of the nation the plans, and the threats and the strategies of the enemies of our profession, and the enemies of social order:

There are numerous organizations preparing industriously for presentation, to the 1921 legislature bills affecting the medical profession that we must be prepared to fight and to beat. Included in this list are: The American Association for Labor Legislation, the Rand School (Socialist), the Woman's Trades Union League.

Their devised legislation is prolific. Enumerated are: (a) compulsory health insurance (medicine subordinated to politics); (b) state medicine, (medicine degraded); (c) national socialization of medicine, (medicine demoralized); (d) co-ercive medical re-registration, (judicial power of revocation without judicial responsibility); (e) drugless therapy—chiropractic, (57 varieties of charlatanism); (f) administrative (tin badge) and not judicial (warrant) right of search (alcohol and narcotics); (g) narcotic control (to foster private institutions and to penalize ambulatory treatment).

Now, items "B" and "D" are fulfillments of threats made by the A. A. L. L. In explanation thereof, let me cite a few details. On October 31, 1919, at the eleventh assembly district chapter of the profession guild of King's County, N. Y., Senator Loring M. Black, Jr., sixth senatorial district, said: "If you refuse to make compulsory health insurance operative if passed, your license to practice medicine will be taken from you under the police power of the state."

Please understand that your license is a privilege, not a right. Go to a law library and read the decision of *Dr. Dent vs. the State of West Virginia*, U. S. Reports, page 114; then read the so-called "Medical Practice Act of 1920, N. Y.," known as the Kenyon Bill, Assembly Bill 840. This was beaten even though the New York State Society "fell" for the propaganda that it "would exalt medicine," and endorsed the bill, failing to realize that this was playing into the hands of the A. A. L. L., and overlooking the fact that the elimination from that bill of section 170-D would have made the New York State Medical Society, the sponsor for birth control legislation.

Again at the meeting of the King's County, N. Y. Dental Society, on December 11, 1919, John A. Lapp, vice-president of the American Association for Labor Legislation said, "If you don't take compulsory health insurance, you will have to take state medicine."

Why did he say this? Well, the Sage-Machold Bill, N. Y., 1920 which was defeated, would have made doctors—"eventually, why not now?"—

state employees. This would have resulted through the provisions of the bill in doctors being state employees under the domination of a lay political board of supervisors or similar bodies, through a state board of health, politically appointed and controlled.

This scheme, was and is, a part of the plan for the National Socialization of Medicine. Through this scheme, there would be created a department of public health and welfare, with the secretary in the cabinet. This department would be subrogated to the state medicine bureaus, and their domination, and control of all the agencies of healing, public and private, individual and corporate, down to the horse that draws the ambulance.

Don't say that it can't be done. Don't remark that this would be unconstitutional. The take-things-for-granted American public held the same ideas about prohibition.

To learn what the police power of the state really means, read the decision in the case of the *Fertilizer Company vs. Hyde Park* in 1897, U. S. Reports 659 (1878). Then stop and calculate how long under this communistic legislation and the sovietization of medicine, dentistry and pharmacy survival would or could be possible for the private ownership and control of hospitals and of staffs.

Some of you may cherish the idea that the charter of your favorite hospitals is an inviolable contract and safeguarded by the constitution. Dissipate this idea! This charter is no more of a right than is your license to practice medicine, and this charter is just as subject to the police power.

Ex-Judge Cullen, (Ct. of Appeals, N. Y.), said "We have no rights, save those for which we fight and die."

The "Reds" say our constitution is "a scrap of paper put away in a darkened drawer, to keep it from fading." We know it is the sign manual of an agreement among free men to protect the rights of their neighbors and to defend their own. But it is a pretty good thing once in a while to let the "Reds" both recognized and unrecognized, become witnesses of what we know we know.

"State Medicine" is being exploited by that same force that exploited compulsory health insurance, and that inspired that threat at the King's County Dental Society—the threat made by a vice-president of the American Association for Labor Legislation; on December 11, 1919, "If you succeed in defeating compulsory health insurance, you will have to take state medicine."

Bear it well in mind, I repeat. This same force

is reaching out further. Having exploited the two vicious types of legislation, I have cited, with the medical practice act, as a co-ercive measure, and having inspired those two threats against the medical profession this force is now exploiting the national socialization of medicine.

Remember the details of this procedure if it succeeds. It aims to create a federal department, with a secretary in the cabinet, to have the same political domination and control in the nation that there would be, provided for in the states under state medicine, bills and to be subrogated to the right, title, interests, control, and domination of all the agencies of healing which such state medicine bills could insure.

The organizations back of these bolsheviki propaganda are supposed to be supported from membership dues. Actually their resources are derived largely from moneyed foundations. These foundations have many interests at stake. Of these many, one of the lesser ones, is the opportunity afforded by these associations for labor legislation to provide remunerative berths for proteges of these foundations, as well as for graduates from the schools of sociology, psychology and philanthropy maintained by the foundations. That these "soft" jobs are paid for by the taxpayers of the state and of the country, of course makes it all the better.

A naive and characteristic feature of these associations for labor legislation is that invariably their patronymics include somewhere the words "America," "welfare," "labor," or "trades union," either singly or in combination. Grant the incorporators a knowledge of the psychology of the American mind.

Daily these socialists pay obeisance to the late P. T. Barnum. They agree with Barnum, that the American public likes to be humbugged. It is customary too, for their officer body, executive council and administrative council to boast the names of distinguished personages; sometimes even the name of our president; while always men and women prominent in church and in state lend to these mushroom causes, their good American dollars and their better American names, without thought of the old adage, "Tell me your company, and I'll tell you who you are." Shocked, would these good folk be, I am positive, if they could see to what uses their names are put. How such names shine on the letterheads of many radical organizations! There these names of good patriots are blended with conspicuous characters, of whom some are affiliated with the Rand school—(nursery of anarchy)! Others are clansmen with gutter and bolshevik publications; with negro-in-

citing magazines and other periodicals, that had better died a-borning, until any honest man feels the whole association needs to be fine-combed before it may lay claim to the glory of the word, "American."

Surely the great number of 100 per cent Americans, that any organization may claim, the less excuse exists for such an organization to permit in its ranks, any even partially, anti-Americans. An American is like an egg. Either he is all good, or he isn't.

Even with a few bad Americans tucked away in the ballast, how is it possible for anyone to understand how the interests of public welfare or of labor can be safeguarded as these organizations wish to have it done, in regard for example in the matter of the art of healing? Even the Aborigines revered their "Medicine Men" and the lay members of the tribe made no attempt at dictatorship. But here are associations for "labor," "legislation espousing a policy that will limit the free choice of a physician by a sick citizen; a policy that will destroy utterly the personal element between a sick citizen and his physician; a policy that will make of a sick citizen a card-indexed unit.

Of the sick citizen's doctor it will make an impersonal employe of the state, under the supervision and control of a political medical foreman who has charge of the gang that will sell to labor a depreciated health-service and supplies at a wasteful price. Either the state must do this or the state will be bound to make good an annual deficit of \$22.32 per average man. In Illinois this will be about one hundred and thirty million dollars.

The Declaration of Independence says "That all men are created equal." But we know that heredity, education and environment modify social, civic and economic equality, producing well-defined classes. This happens precisely as it does to the acorns. One acorn develops into a sturdy oak, another acorn produces merely a sapling that withers and dies. This is the natural law. Sovietization cannot change it.

A hoard of bolshevists infest today this country. These anarchists are for the most part foreigners are enemies of social order. They are attempting to make of the practice of medicine, a pawn in the game of politics for the special benefit of a few soviet government lads.

It is the solemn duty of the medical profession to keep focused the public eye upon this coterie of dangerous human explosives in our midst, that the public mind may be popularly receptive of the warning which it is the duty of medical men to

convey; that the citizenry may know the viciousness of hysterical public health legislation of this type and that public opinion may be moulded against it. There are two things that speak right out in meeting when the ordinary type of legislator is legislating—money and votes!

Propagandists of this mis-called "welfare legislation" have the money. Medical men have the confidence of the people. This means votes sufficient to smash party-solidarity to bits if we go to the people with the facts and ask support regardless of party affiliations.

This is not the theory of a dreamer. It is a demonstrative fact of which the campaign in New York in 1919-20 furnished sufficient evidence to prompt the New York State Legislature in 1920 to send to the scrap-heap, thirteen out of thirteen bad public health bills. If passed these would have made the profession of medicine—piece-working trade and the people of the state the victims of a debased and degenerated type of a politically dominated machine.

Vicious public health legislation will affect the health and life of a citizenry. Will the public forgettery help the bolshevik forces prostitute medicine, dentistry and pharmacy? There should be enough red blood in the medical profession to rouse the American people to a realization of the fact that this is not the medical man's fight for an economic existence. It is the propaganda of the forces of unrest against the constituted agencies of order; of the false doctrinaires, of the "Herr Professors;" of the third internationale; of the professional philanthropists; of the busy-body social surveyors constituting the high priests of the congregation of "worshippers" at the shrine of something else than "Americanism,"—the assault of all these against the traditions and institutions of this country for which the men and women of all generations have given their lives.

Against the agencies for law and order, are the pre-war "kulturists;" the war-time pacifist and obstructionist and the present university, magazine and parlor and gutter agitators who abuse the liberty of speech and of press and are permitted to get away with it.

It is the duty of medical men to acquaint themselves with the fact of this vicious legislative propaganda and with the anti-American attitude and affiliation of the propagandists who see in what they label euphemistically "state medicine" a means of accomplishing what they failed to achieve through compulsory "health insurance" because the people know more now about tricky legislation than they did when they voted for the Davenport-Donahue compulsory health insurance

bill in the New York senate in 1919. If the propagandists can put across state medicine as a wedge for the subsequent national socialization of medicine, then that group of radicals will be content.

Some of the professional philanthropists, social surveyors and brothers in trade will retain their jobs and receive their pay from the coffers of some of the foundations through the finance department of the forces of unrest.

It is time to call a halt on destructive bolshevik propaganda in this country. It is time for Americans to wake up and to prevent the socialization of things generally. The function of state or nation, should not be prostituted to the penalization by panalization of the profession of medicine; the pauperization of the people and the profiteering of the politician and professional philanthropist through a policy of inverted economy parading under the specious title of "welfare" and wearing the cloak of "brotherhood of man," such as a compulsory health insurance act, a state medicine act, a national socialization act, a coercive medical practice (re-registration) act; a drugless therapy act, or any group or combination of these acts and unless the people who are the heirs to the rights of the collective parties to the constitution of the state and nation are afforded a full, free and frank exposition of the fact which the propagandists dare not submit and the medical men must or prove false to their trust.

A man has a right to disburse according to his own personal desires every cent of every dollar that he earns (government taxes excepted), but what a roar would arise from the workers if compulsory health insurance prevails, and every worker is compelled to give up ten and three-fourths cents a day exact, taken from him either directly or indirectly, as premiums plus taxation to make up the deficit that this legislation will bring about. In Illinois, as I have mentioned, it will be reckoned to be about \$130,000,000.

The Sage-Machold Bill (N. Y. Senate Bill 1533), is not dead. It is liable to be presented again this winter in the New York and other state legislatures. Here is another manifestation of the ridiculousness of the radicals; of the laity's attempt to engineer the medical profession,—this bill changing completely the people's plans for the treatment of human ills and that should not be jammed through a legislature until the people have had a chance to learn about it and to judge and to decide whether they want the function of salutary state medicine expanded to embrace the absorption of the allied profession of healing under a political state head.

That such political bodies may be vested with the power to acquire the control of existing hospitals and of other ramifications of the works of the allied profession is entirely wrong.

That the entire system of salvage for human life and health should be in the hands of a huge political machine made up from the laity is monstrous. It would make of the health of the individual tax-paying citizen a pawn in the name of politics. This enormity of economics would deprive the taxpaying citizen of his right of free choice as to who shall stand between him and death when disease enters the home and will eliminate the physician of choice and confidence to his family.

Behold the sacred profession of medicine disintegrated into a circle of under-paid discontented salary workers, dominated by a political "district foreman," a political appointee, for whose medical opinion the average self-respecting doctor of today would not give a "whoop in hades."

Yet all of this and worse will come to pass if the socialization of medicine prevails. All the errors tabulated, the crimes against citizenry and the profession are part of the provisions of the Sage-Machold Bill in its practical operation. Verily destructive economic forces have come upon the medical profession. At any time anyone or all of the bolshevik doctrines which I have mentioned may become a part and parcel of our daily life.

To combat the forces working against us we must fight fire with the proverbial fire. It is essential that for mutual protection the medical profession shall be organized. As I view the future there is no escape from this action. And I cite again my prophesy of ten years ago that I am sorry has come to pass. We will never be safe from exploitation by sham uplifters and political exploiters until we have affected a thorough organization. The helplessness of the present day medical society in its attempt to protect its members was shown by the failure of the Illinois State Medical Society before the State Constitutional Convention in 1920.

We should be better organized so that we may have a true consensus of medical thought on those subjects which concern our profession particularly and which re-act adversely on the people generally.

To some of the old orthodox school at first this suggestion may seem distasteful. It is indeed a radical departure from early teachings. Sober second thought and an unprejudiced weighing of conditions will do much to convince the ultra-

skeptical that the profession should be organized thoroughly and sanely in order to bring about livable conditions.

Much of the present day "new idea" tenets and socializing legislation promises to prove a pandemic. Citizenry everywhere must be taught its hidden but inherent dangers. It is really a fight for Americanism in which the medical profession must help. But we cannot aid, if we work sporadically. The call is for united effort. To give this we must be organized for the study and the mastery of social as well as physical epidemic diseases. We must know how to affect a quarantine against hysterical and vicious public health legislation that will be absolute as a similar barrier against the bubonic plague. We must heed the sermon of labor's preaching; we must pick up labor's weapon in the halls of legislation—votes, votes, votes! The epidermis of a politician or of a near-statesman feels the penetrating power of a vote more speedily and deeply than of any other social weapon yet discovered. If the medical profession refuses to organize and to utilize the power of votes to the full limit, the physician and his profession may expect to be continued to be ignored in legislative halls.

The bolshevist is wiser now than we. He went out with an organization and is bringing us under his thumb.

Contrast the experience of the profession of Illinois before the 1920 State Constitutional Convention, with that of the professional guild of King's county, New York.

The King's County Guild has 4000 physicians, dentists and druggists, and has the endorsement of twenty professional and scientific societies representing the three professions in that county.

During the last campaign, the Guild appointed working committees in each assembly district, composed of two physicians, two druggists and one dentist. This committee called on each candidate for state assembly and state senate to ascertain his views of health insurance, and asked for a pledge to vote against any bill, providing for compulsory health insurance. Against those who expressed their intention to vote for such legislation, the Guild waged a bitter fight, carried on under what was probably the most unique conditions under which a political campaign in this country was ever waged.

Supplementing the regulation stump-speaking practice, characteristic of all campaigns, the professions carried the fight into the very sick room. The doctor over the sick bed of his patient, in the confidential relation of the health minister in his home, the dentist working over his patient in his

chair and the druggist talking to his customers in his store, urged the defeat of those who admitted their intentions to support health insurance.

Under this silent, overpowering softpedaled professional propaganda, ten hostile candidates went down to defeat and ten candidates pledged to oppose health insurance were elected in their place.

In the political history of America, no parallel for this novel campaign and demonstration of the professional man's power and influence with his patient, when put to the test, has ever been so conclusively established.

Here we have a brand new force in American politics. A force that should be extended until every state in the Union is represented.

With the opening of the state legislatures, January next the fight starts. To date, the professions have defeated bolshevik legislation for three years. For the fourth time the wealthy interests seeking its enactment are now ready to come forward again, this time with increased strength, more money and more powerful agencies than ever behind it.

Free doctors, free medicines, free maternity benefits and free funerals look good to the proletariat, and such legislation the hypocrites claim will help solve social illness. It is Bismarck's old formula to keep the socialists from getting too belligerent and disturbing the crown. Re-vamped to meet American conditions.

The fact that employers' of labor must pay the bills, as an additional tax, beyond all other taxes they now have to pay—with which all this free stuff will be provided—counts for nothing. It's a bone for the restless, and they must have it.

If you have to help pay the bill in medicines and surgical supplies sold at approximate cost—that's your fault. If you want to escape it—change your business. If you want to stay in the business, this is the time to fight for it or forever keep your peace.

25 East Washington St.

HONORS TO BRITISH MEDICAL EDITORS

Among the honors included in the New Year honors list this year, the recognition of medical journalism by the conference of knighthood on the editors of the *Lancet*, and of the *British Medical Journal* is of particular interest, as this is the first instance in which medical journalism has been granted this distinction. Sir Dawson Williams, C. B. E., M.D., D.Sc., F.R.C.P., editor of the *British Medical Journal*, and Sir Squire Sprigge, M.A., M.D., editor of the *Lancet*, have received the honor of knighthood.

PREPARATION FOR MOTHERHOOD*

WM. L. ALLEN, M.D., F.A.C.S., Davenport

The question of motherhood is of more vital importance to this country at this moment than ever before. Not only is the influence of the mother of vastly more importance in these troublous times, because of the craze for excitement, and the disregard for the old-fashioned notions of the value of the simple home life, but also because through her, and through her only, can be instilled in the young, the seeds which bring forth contentment and loyalty, and prevent the growth of such bolshevik doctrines as can be called envy, hatred and malice. To reach the mother, and to protect her in her supreme hour of trial, and to train her for her important work in life, is a duty which falls more upon our profession than upon any other; not only because we should know best what measures to take, but because we reach more homes, and get nearer the heart of the family than any other profession.

Moreover the statistics of our census bureau show that our native born mothers are constantly deteriorating in the matter of production, in fact that our native born mothers have nearly 25 per cent less living children than the German and Scandinavian born women; and that not only is their fecundity less, but also that either their children are less robust, or that our native born mothers are not properly trained to raise children.

It certainly would be a calamity not only for our own country but for the whole world if the wonderful type known as "the American" and produced by a hundred years of inter-breeding of the best blood of the English, Scotch, Irish, German, Scandinavian, French and Italian people should so deteriorate through a life of idleness and self indulgence that it should be out-classed both in health and in number, by the different races from which it sprung.

It is up to us to help protect this wonderful race of people by starting at the foundation, and to begin to train all our young women in early life. The field is tremendously large, more than 2,500,000 living children are born annually in this country with deaths of more than 17,000 mothers due to disease or accidents of childbirth, with deaths of nearly 1,000,000 infants annually from causes due either directly to lack of care and training of the mother, or to heredity and poverty, or to lack of moral training and abortions.

Senator Shepard and Congressman Towner

*Presented at the Austin Flint-Cedar Valley Medical Society, July 14, 1914.

have introduced bills in Washington which presuppose that most of these losses are due to lack of care through poverty; these bills if passed will be a great help, but will not relieve us of our responsibility in the matter.

Between the ages of fifteen and forty-five more women die of diseases incident to childbirth, than from any other cause except tuberculosis; and when you consider the morbidity in the thousands who do not die, you will readily see that it equals or exceeds all your surgical cases in number.

Normal labors are today much less frequently found than formerly. The daily life of young women is not such as best fits them for the ordeal of labor. Those of you who have had experiences with obstetrics know, that aside from the normal anatomical development of young women, the greatest importance is the muscular strength of the entire body, and the endurance of the heart. To fit these young women for such an ordeal is just as important as to give our young men universal military training. The ordeal of labor is frequently as great a physical strain as a prize fight or a wrestling bout. The easy labors of the hard working class is due to the strength of the muscles and heart and that can not be obtained by a life of idleness and self indulgence.

The automobile has with many taken the place of the valuable exercise of walking. The use of the abominable two and one-half inch heel and sharp pointed shoe has prevented those who have no automobile from taking any kind of exercise. We should therefore bring these matters before all our patients and outline a plan of physical training.

1. Examine all young girls and young women thoroughly, especially considering the pelvis, heart, kidneys and muscular strength.

2. Instruct as to proper clothing, shoes, etc.

3. Require setting up drills, breathing exercises and muscle tension exercises for at least thirty minutes each day.

4. Require walking from two to six miles a day.

5. Require swimming or tepid 4 per cent salt baths every other day.

6. Require gymnasium exercises.

7. Arrange for lectures in schools and women's clubs and for printed instructions.

STANDARDIZATION

To attempt to go through the immense field of obstetrics in one article or in one lecture would be utterly impossible; so it will be my purpose to take up a few important points and arrange them

in groups which may be more or less a matter of convenience, and not strictly according to their scientific relations.

You are most of you as fully conversant with the various complications of labor as I am, but the profession at large has not taken the question of obstetrics as seriously as it should have; and therein lies the difficulty, because it will take years of work to educate the public to accept your new plans. For example in order to standardize your obstetric work as you should, there must be just as careful and thorough an examination of all your cases as you now require in major surgical cases; and your patients do not come to you with any such idea or intention because they have not been trained or accustomed to such a thorough procedure. It will be necessary then for you to not only change your routine practice in this respect, but to bring the matter up for discussion in your local societies, in order to have it become a generally recognized practice. Then you should have your nurses association, and your woman's club informed of the practice, and in a short time the public will not only accept it as necessary, but demand it for its own protection.

To simplify our standardization let us condense if possible into five groups. (1) Anatomical relations; (2) Pathological deformities or growths; (3) Physiological; lungs, kidneys, heart, muscles, nerves; (4) Systemic; pathological condition of lungs, kidneys, heart or arteries; (5) Mechanical, position, etc.

1. The Anatomical Relations—Examination here will reveal a contracted or deformed pelvis, abnormal prominence of the sacrum and last lumbar vertebra, narrow outlet acute angle of the arch, fixed or obstructing coccyx, ankylosed hip, etc. All such cases should go to the hospital as either Caesarian Section or premature delivery will be required in those of marked deformity, and all should be considered as probable indications for operative measures.

2. Pathological Deformities or Obstructing Tumors—Nearly all will require operative measures, usually section. These cases should go to the hospital.

3. Physiological Condition of Heart, Lungs, Kidneys and Nerves and Muscles—The condition of these vitally important parts should be carefully tested, for errors in heart and muscular strength will be found in one hundred times as many cases as will be found with obstructing tumors, or an anatomically deformed pelvis; it exists because of lack of exercise and proper training and should have been avoided by proper training before marriage. These are the cases

which usually result in uterine inertia and require assistance by forceps operation.

4. Systemic, Pathological Condition of Lungs, Heart, Kidneys and Arteries—These conditions are of the utmost importance, they may arise from the increased demands of pregnancy or may have been present before pregnancy; an increase in temperature from a toxic cause may require immediate assistance, abnormally high blood-pressure and inefficiency of the kidneys will require active treatment or section, lung and heart lesions should also be placed in the hospital as these cases with sudden rise in temperature are frequently saved by a forceps delivery.

5. Mechanical—Position—Examination will reveal abnormal position of child; and placenta praevia may be considered in this group. These cases should go to the hospital before the expected date of confinement, section is probably the best procedure for placenta praevia. Occiput posterior cases if recognized can frequently be changed to a first or second position. Turning under complete anesthesia in cord prolaps, or in transverse position must be done early.

In conclusion let me ask you to consider the fact that normal labors are not as common as in former days and you should consider that probably 10 per cent of your cases will require a forceps operation; those with placenta praevia and all with obstructing tumors or a deformed pelvis under three inches, may require a section, but these are comparatively rare, probably not more than one in 300 cases. On the other hand you will find occasion to use your forceps in hundreds of cases and these should be in cases with a normal pelvis. You should then study the mechanical route for the forceps, and should use the rotary forceps in all cases above the outlet. The forceps is not intended to overcome a deformity but to take the place of normal uterine contractions which are absent.

WISCONSIN HOME-COMING

The State Medical Society of Wisconsin will celebrate its seventy-fifth birthday by holding a "Home-Coming" meeting in Milwaukee, September 7, 8 and 9, 1921. All former Wisconsin men, whether they have practiced there or left Wisconsin to study medicine, practicing elsewhere after graduating, are invited to this home-coming.

The officers of the society are anxious to secure at this time for mailing purposes the names of all former Wisconsin men. They will confer a favor by sending their names and addresses to Dr. Rock Sleyster, secretary, Wauwatosa, Wisconsin.

MEDICAL JOURNALS AND THE CAMPAIGN AGAINST CANCER*

FRANK J. OSBORNE

Executive Sec'y The American Society for the Control of Cancer

Rather a large order and one which should be neither adulterated nor shortweighted. The campaign against cancer is all that the name implies. It has been, and for years to come will be, a battle. A fight against gross ignorance and traditional fear and hopelessness on the part of the lay public and no small skirmish against a degree of lethargy existing even in the medical profession. However, we have been told that battles are lost in the same spirit in which they are won by real fighters and we must therefore maintain a hopeful and aggressive spirit in our efforts to overcome this, one of the most difficult of all medical problems, if we hope to make any eventual headway against it. It is true that our present day methods of treatment hold out very little hope in advanced or late cases of cancer; but it is equally true, that recognition of early symptoms and immediate competent treatment justifies a most sanguine attitude and really gives hope of ultimate successful treatment of the majority of cancerous and precancerous conditions. This is the message which the American Society for the Control of Cancer has attempted to propagate during the six years it has been in existence, and those who have been in a position to observe and who have kept careful records of progress claim that results are now beginning to manifest themselves; some stating that as high as 80 per cent of successful cures could be obtained in certain areas, if the patients would but present themselves for treatment early.

Having its birth as this society did, within the medical profession in response to a resolution adopted by the American Gynecological Society and endorsed by the Congress of American Physicians and Surgeons in 1913 it has enjoyed the closest cooperation from the organized medical fraternity and its official journals. From the very first it was recognized that the medical publications of the country constituted one of the most powerful agents for the dissemination of cancer control information to the profession and it is a pleasure to be able to say that this cooperation has continued and advanced during the past years. Hardly a month goes by that some cancer paper or editorial does not appear in these journals, and it is worthy of note that even though the paper itself may make no mention of the na-

*Read before the Fifty-First Annual Meeting of the American Medical Editors' Association at New Orleans, April 27, 1920.

tional campaign being waged against this disease, the discussion which follows almost invariably brings it out and stresses the point that eventual success lies in impressing upon the public the necessity of prompt and intelligent action and upon the profession the necessity of equipping itself to render effective service in the way of diagnosis and treatment when the patient presents himself for advice. The latest evidence of co-operation between your journals and this society was the way in which you made known to your readers the existence of the new Handbook prepared especially for the medical profession setting forth the latest and most approved methods of handling this disease. The announcement which went forth in your columns resulted in innumerable requests for this booklet and has been a source of encouragement to the society and a full recompense for the time and energy devoted to its preparation.

I should now like to be a little more explicit and attempt to indicate, with your indulgence, certain ways in which medical journals can greatly increase this valuable co-operation and be even more useful as a medium of suggestion and education to the medical profession and through it to the general public. The policy of the society has been, to have state medical societies appoint permanent cancer committees. During this six-year period twenty-one such societies have done so. Many of these committees however, flourished for only a short time after their formation and have now with a few notable exceptions either become inactive or have ceased to exist. In urging the appointment of these committees the society has always stressed permanency in office because of the fact that cancer is a disease which is constantly present in the population and one against which only continued efforts of education can make any impress. It is therefore felt that such committees should be composed of a few carefully selected men upon whom should be placed the duty of organizing and carrying out a thorough-going and persistent system of attack which could not be so well done if the personnel of these committees was constantly changing. Having gone this far, however, the society is, by the very nature of the case, compelled to stop. These special cancer committees appointed in most cases merely at the suggestion of the society, are not of it, and not subject to outline dictation or even suggestion. But it is self-evident that the editors of medical journals are in a position to greatly assist both this society and these committees. The readers of these journals always read with interest and due respect suggestions coming

from the editorial desk. Such recommendations as might be editorially offered, would certainly receive far more consideration coming officially, than if they came from an organization such as the Cancer Society which at best would be non-official. Medical editors by taking an active interest in the organization of such cancer committees, could largely shape the make-up of such bodies. It would be simple to show why such committees should be permanent as to tenure and composed of men carefully selected for their prominence, interest, energy and sanity. The appointment of such cancer committees is a matter of no small moment and if the efforts of the members are to result in anything worth while in the cancer control campaign they should be most judiciously chosen. The whole success of such a movement often depends upon the character of the appointees on such committees.

Having shown your subscribers the way to organize such committees may I invite you to go one step further? It is a well known fact and one which simple observation in almost any direction will verify, that many committees, even though well chosen and organized, drop off into a state of coma or actually die of inanition. As a rule such committeemen to be really useful are busy men. They cannot be expected to devote a great deal of their valuable time to work even of this highly humanitarian nature. Medical editors might well consider themselves in the nature of executive secretaries. One of their normal functions is to stick pins into slumberers and to make first suggestions. It is often easier for any committee or organization to work a plan than to plan work. By virtue of his office the medical editor is in the best possible strategic position to sustain interest and get action. He is in the vanguard of the medical movement. He is in possession of all tried and proved methods of the public health and preventive medicine campaign. It is not new for him to outline programs of activities and with the added facility of presenting such programs in an appealing and forceful manner results would be bound to follow. In this way he would take the burden of this fundamental work off the shoulders of the committee which would result not only in conserving their time and energy but in giving them the latest available information as to how to prosecute this particular educational campaign. It is realized that some committees are so blessed with specialized talent or lead by a chairman so well equipped with organizing and campaigning ability that such service from medical editors would not be required. On the other hand it has been our experience that no matter how efficient

and successful a committee may be, there will come a time when its activities will lag and its effectiveness begin to wane unless stimulated from some outside but closely co-operating and helpful agency.

While not assuming to have perfected any such program of activities for use by medical editors, it might not be amiss at this time to suggest a few of the more obvious lines of attack in order to block out roughly the scope of work with which such a committee might properly interest itself. Its first attention should of course be directed to the official medical organizations in its state and in view of the fact that education of the profession should go hand in hand with that of the public, we would place equal emphasis upon both phases of the subject. In order to indicate how this end may be attained, I would call attention to two activities recently carried out by cancer committees of state medical societies. In Massachusetts, by co-operating with the state department of health, the medical society secured the distribution of the new handbook for the profession entitled "What We Know About Cancer." This is a most fundamental piece of professional education. The booklet is brief, readable, authoritative and suggestive. To have placed it in the hands of each medical man in this state is a distinct service and one which is most heartily appreciated by the Cancer Control Society, and will no doubt go far in our educational campaign. As a parallel to this educational work in the profession the cancer committee of the Ohio State Medical Association has just conducted a "cancer week" throughout that state. As a preliminary to this campaign a series of meetings was held among county medical societies and academies of medicine on the subject of cancer. The state was then divided into eleven districts each with a supervisor to manage the details of the campaign. A large number of qualified medical men were appointed as lecturers to address lay audiences and two hundred and fifty of the lecture outlines prepared by the national society were provided in order that these lecturers might present the subject in a uniform manner. The "week" was started with a "cancer Sunday" on which the subject was briefly presented from the pulpits in the various churches and during the ensuing seven days the speakers addressed groups of women's clubs, welfare organizations, chambers of commerce, rotary clubs, and others. These are concrete instances indicating how well such cancer committees can function when properly guided. The chairmen of these two committees are to be congratulated for their efficiency and it is hoped

that they will continue the work so well begun. Another useful suggestion would be that each local medical organization whether a county society or academy of medicine be urged to devote at least one meeting each year for its own members to a discussion of cancer and hold at least one public meeting on the same subject annually.

Somewhat removed from the medical organization group but still intimately connected with it are hospitals and dispensaries; and nursing organizations and training schools. Posters and placards on cancer should be prepared for bulletin board display in these institutions and every effort should be made through medical staffs or hospital superintendents to include cancer control in the lecture course for pupil nurses. All such schools should be supplied with special literature prepared for nurses; and nurses' associations both state and local, should be encouraged to provide speakers on the subject at their various meetings. Red Cross and all public health nurses as well as industrial nurses should be supplied with the same information through lectures and pamphlets.

Another suggestion which medical editors might bring to the attention of chairmen of cancer committees is to interest the members in bringing the latest supplementary cancer control information to students in medical schools and colleges. Special stress should be laid upon giving due attention to instruction of students in the recognition of precancerous conditions. Our present day knowledge indicates that the best hope of preventing cancer is to inform the public of the predisposing danger signals and to educate the profession to recognize them as such. If it be true that our best hope of controlling this disease lies in acquainting the younger generation with these facts, it is equally true that complete success implies that no medical man should enter upon the practice of his profession without a thorough knowledge of all diagnostic procedures.

Three other agencies whose major interest is strictly professional are public health associations, health centers, and industrial physicians and surgeons. All these groups are doing most valuable preventive medicine work. Each is brought in intimate contact with numberless people who require instruction and no cancer committee can do a thorough job of professional education on the subject of cancer without enlisting the co-operation of these groups.

After having completed this part of the program which has to do specially with work through professional or quasi-professional bodies, (or rather while keeping step with this part of the

program as was done in Ohio), the committee should include in its activities further educational work with groups of lay or non-professional organizations. A suggestive campaign of this nature has just been completed by the Colorado State Committee for the Control of Cancer. During the last few weeks of 1919 the committee's lecturers delivered twenty-two talks on the subject of cancer control which were heard by about 4,000 individuals. Aside from one before the State Medical Society and another to hospital nurses the following audiences were addressed which shows the diversity of the public reached: The State Federation of Womens' Clubs, employees of five department stores, employees of three industrial concerns (one a group of 1300 miners), the State Educational Association, State Librarians' Association, and State Congress of Social Workers; a Ladies' Aid Society, one church congregation, and a Parent's Association in a high school. This indicates the types of audiences which may be addressed to advantage upon this subject and when we add to them, chambers of commerce, manufacturers and merchants' associations, trades councils and unions, ministerial and other clerical groups, fraternal orders, Y. M. and Y. W. C. A.'s, civic and study clubs, all of which have been used from time to time as mediums through which to disseminate the hopeful message of cancer control, we begin to grasp something of the immensity of the work before us and to appreciate that the word "campaign" is most aptly chosen.

I have left for the last the consideration of one of the most important if not the most important and useful of all cooperating agencies through which such a cancer committee can operate. I refer to the public health departments, state and local. Having been a health officer myself, I am cognizant of the misunderstandings which sometimes exist between the organized profession and these official departments. This is not the place or the time to even sketch the underlying causes of this unfortunate situation. It is enough at this time to state that in the fight against cancer the state medical societies and state and local boards of health should work together as a unit. With the prestige and funds which well organized and well supported health departments can command, no chance for cooperating with them should be lost. Through their regular publications, exhibit and lecture bureaus as well as through their nursing staffs, demonstration clinics, health centers, etc., a unique opportunity is offered for the most effective kind of team work. It is not difficult to show to boards of health the desirability of

such cooperation when the possibility of cutting down the death rate from this disease through intensive educational methods is properly presented.

One last word, and that, one in which I am sure the editors of medical journals will entirely concur. In making suggestions for carrying out a program of activities, particular stress should be laid upon the desirability of free use of printer's ink. After all it is the general public that the majority of meetings are designed to reach. Success in the control of this disease can be said to be in direct proportion to the number of persons who have been persuaded by the dissemination of information to give immediate attention to suspicious symptoms. The medical man is the one who must prepare and deliver the facts, for only he has them. He should then be assured the widest possible hearing and his audience can be increased many fold by a well organized and smooth working press bureau which will see that his address is digested and reprinted in the public press. Where one hears the lecture hundreds read the papers. If the information is valuable for people to hear it is equally valuable for others to read. A sub-committee on publicity is, therefore most essential.

I will now leave this matter for your consideration, feeling sure from the experience of the society in the past that this additional assistance on the part of medical editors will strengthen the bond of cooperation existing between your association and that which I represent. As an example, I may cite the splendid results of propaganda publications prepared and distributed for popular use by the American Medical Association some of them in cooperation with our society. I appreciate that for medical editors to take up this work means a new line of endeavor, and I recognize the difficulty of taking the first step in a new venture. However, I can assure you that if entered into with the spirit which the importance of the service merits there is no one thing which medical journals could undertake which would so far advance the campaign for the control of this disease. You may feel sure that the American Society for the Control of Cancer is most anxious to assist in any way in which it may be privileged to do so.

The office of the secretary of the State Medical Society would appreciate receiving copies of the March and April issues of 1920. If any member has a copy of these issues that he does not care to preserve, please send them to the secretary's office, 901 Bankers Trust Company building, Des Moines.

ABSTRACT OF PAPER ON
THE PRINCIPLES OF DRAINAGE IN
EMPYEMA

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There is a great similarity between the pleura and the peritoneum. In both these cavities inflammatory affections are essentially secondary to diseases of the contained viscera and are attempts to limit or cure the primary lesions. In the abdomen the primary lesions are usually limited in extent (e.g. appendicitis or duodenal ulcer). If nature's methods are not interfered with by neglect or still worse by injudicious treatment, the secondary peritonitis walls off the disease and may result in resolution or in the formation of a local abscess. The lesions being limited, early operation is well calculated to lead to prompt and permanent cure.

Empyema is usually the result of pneumonia. As a result of the pneumonia, changes take place in the pleura more or less similar to those seen in peritonitis; effusion; exudates; formations of adhesions. These are evidences of attempts to limit the disease and when not in excess are useful. When pus is found in quantity, the protective pleuritis becomes in itself a danger. While the primary or pulmonary disease is active, interference with the pleural condition is wrong, except when that condition is excessive and then the excess alone should be attacked by aspiration which may require to be often repeated. When the pneumonia has improved markedly and empyema persists, then the pus must be removed.

It is needless in this abstract to discuss the common and often useful and successful methods of treatment by puncture with sterilization by means of Dakin's solution or by incision with removal of pus and fibrin after which the pleura is filled with iodoform emulsion and closed without drainage.

The principles of drainage alone need interest us at the present. One must remember that adhesions may cause encapsulation of the pus in one or several places and hence that exploratory operation is often necessary. One must also remember that the costodaphragmatic angle is often obliterated by adhesions. The classic operation for empyema is to establish drainage at the 5th or 6th rib in the posterior axillary line, but this position does not correspond to the low point in the pleura whether the patient is lying or sitting. One must remember that on each side of the vertebral column a gutter exists which can only be drained by an opening at the angle of a rib, the

patient being in the dorsal decubitus. The most thorough method in which to obtain drainage whether the patient be lying or sitting is to make a free opening at the level of the 5th or 6th rib, to find the low point (for any decubitus) by means of exploration with the finger or forceps and there to establish drainage. The primary opening may be used for the insertion of Carrel tubes or may be left alone.

Some surgeons endeavor to obtain sterilization of the cavity by means of air or oxygen passed through ether or formalin and introduced into the bottom of the pleura through the drainage tube. If drainage has been established on the principles enunciated sterilization of the cavity is usually unnecessary.

PRACTICAL POINTS ON BLOOD-
PRESSURE*

EPPIE S. MCCREA, M.D., Eddyville

Blood-pressure has become one of our greatest aids, in the medical world, a great many conditions cannot be properly treated, surgery cannot be safely done, prognosis of value cannot be given, without knowing the condition of the circulation, and all this has been successfully done and made possible, by accurate estimate of systolic and diastolic blood-pressure.

It has been the subject of study and research since the time of Harvey's discovery of the circulation of the blood. While some work in estimating the resistance of the blood-vessels and blood current had been done, the first instrument used for this determination was brought forward in 1823 by Ludwig and Poiseville, it being the first V-shaped manometer. But nothing practical was perfected so as to be of much value to the medical profession until about 1902.

In 1896 Riva-Rocci invented an instrument for taking blood-pressure that became the type of all modern sphygmomanometers of which all mercury instruments are but examples. The aneroid instruments retain the most essential part of it—the rubber bag, for the compression of the artery, but are more convenient and more practical, since their carrying space is not so great.

The patient should be as nearly at rest as possible when taking the blood-pressure, not even allowing them to watch the dial. Sleeve removed and no restriction at the shoulder or axilla. If the patient is left handed, use the right arm. Adjust armlet smoothly and gradually inflate to 10

*Read before State Society Iowa Medical Women, May, 1920.

m.m. higher than at which pulsation ceases at radial applying the stethoscope with not too great pressure, as artery will be compressed.

The rule practically observed by many, places the normal pressure of a young man of twenty, at a 120 m.m. with an increase of 1 m.m. to each two years of age. Thus, the normal pressure of a man of thirty is 125 m.m. and of forty—should be 130 m.m. A systolic of 120 m.m. in a young man, should have a diastolic of 80 and the pulse pressure of 40; and if these relations become changed disease is developing, imperfect circulation is a danger. signal. Diastolic of 100 is trouble and 110 is a menace. Range of normal pressure is given from 25 to 45 m.m. A high systolic and correspondingly high diastolic pressure, indicates a normal balance between heart and vessels and shows well balanced circulation, while if systolic approaches diastolic and shortening of pulse pressure, indicates failing circulation.

Regardless of a perfect heart in action, the blood cannot be properly circulated without a normal tone of blood-vessels.

Abnormal vasodilatation seriously interferes with normal circulation and causes venous congestion with abnormal increase in venous blood-pressure and consequent danger of shock or death, while increased arterial tone demands greater cardiac effort to overcome resistance, hypertrophy of heart must follow, while, if from disease or disturbance of the lungs, the resistance in the pulmonary circulation is increased, necessitates hypertrophy on the part of the heart and is a question of how long the system can stand it.

If arterial fibrosis is the cause of systemic tension, sooner or later the heart will become involved in the general condition and a chronic myocarditis is likely to result. Or, if there is low systemic arterial blood-pressure, the circulation is not sufficient, nutrition imperfect and the physical ability of the individual is below par. Do not feel that if you find the systemic pressure normal in these cases that the blood-pressure reading will give you no information, for, if the pulse pressure is low will often point to tuberculosis before other symptoms would come to light.

Authorities find that food increases systolic pressure as well as fear or excitement and will cause you to get an unreliable reading.

High blood-pressure is indicative of some toxic influence at work in the body as well as being one of the earliest symptoms of arterio-sclerosis, chronic interstitial nephritis, pyorrhœa or eye-strain. Ophthalmologists who have made a special

study of these conditions, frequently reduce blood-pressure by merely correcting refraction and also find that arterial hypertension is the cause of early retinal and arterial changes as well as later phenomena.

Excesses of all kinds can be easily traced as causing high blood-pressure. Overeating and under exercise are frequent causes of arterio-sclerosis and the heart and arteries that are constantly subjected to heavy strain by prolonged and fatiguing muscular exertions, such as laborers who work until they are "ready to drop" are among the highest percentage of our cases.

The injustice that arteries and blood-vessels are put to by over-indulgence in athletics is the cause of damaged heart and arteries. Someone has said that "Sometime in the not far distant future, it is to be hoped that each school will have supervisors of athletics, that will avoid the strain attending some athletic "stunt."

Janeway presented statistics of 485 patients with high blood-pressure, 67 per cent of whom were men. He found that women with high blood-pressure lived longer than men affected in the same manner. They did not seem to have apoplexy or cardiac failure as often as men. About 85 per cent of high tension cases occur between ages of forty to seventy, while Janeway believes that a systolic pressure of over 160 m.m. is pathologic, he does not find that any definite prognostic conclusions can be drawn from the height of the pressure.

The most important accompanying symptoms of high pressure are cardiac, renal and cerebral. The typical headache, as he terms it, is a symptom of serious import. But, in considering headaches in persons over forty, we must eliminate the eye headaches produced by the need of stronger lenses, as this is a frequent cause of headache. He finds that failure of eyesight is an initial symptom of arterial disease.

Patients with high blood-pressure may show all kinds of symptoms simulating neurasthenia, but hypertension is a much better diagnosis for such patients and will lead to a more rational treatment.

Ninety-seven per cent of these 458 patients of Janeway's had hemorrhage somewhere, most frequently epistaxis. Purpura did not occur in any of his patients.

Obesity being a cause of high blood-pressure, should be considered a disease and treated more or less energetically, even if the individual does not continue to add weight.

Pulse pressure must be watched and a diastolic

of 105 would sooner or later cause myocardial symptoms. Increased pulse rate and respiration would indicate this. A constant systolic blood-pressure of over 200 shows a probability that patient will ultimately die of either uremia or apoplexy.

When blood-pressure is suddenly excessively high from any cause, venesection may be life saving and will relieve a heart that is in agony from tension and prevent apoplexy, while a chronic high tension may be repeatedly bled it will not save life long, as the blood-pressure soon returns to its previous height.

Nature establishes an equilibrium in the system that we must always remember and recognize her ability to establish.

Pregnant women must be watched carefully and with the aid of the sphygmomanometer, the forewarning may be discovered before serious damage is done and relief given.

It behooves the physician in this rapid high tension age, to be as energetic in teaching prevention of arterial hypertension which will be an injury to the arterial walls, if not rectified, as it is in our constant vigilance in preventing contagion.

While infectious diseases are reduced in frequency by constant watching on the part of the physician, it proves to us the necessity of caution to younger generation against overeating and irregularity of meals and the use of tobacco, coffee and stimulants as well as excesses in recreation and competition in athletics.

USE OF RADIUM IN SURGERY*

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In discussing with you the subject of radium, I wish you to consider that the advent of radium as a therapeutic agent is of recent time, and, farther than that, not all is known concerning radium or its effects on cells that will be known later. For these reasons it is a difficult matter to discuss quite intelligently the uses of radium in surgery. However, we have witnessed sufficient results from the therapeutic use of radium to know that it possesses qualities that are bound to challenge our deepest consideration. It is these known results that I wish to discuss.

Radium, as a therapeutic agent, is destined to reach a prominent place among the important medical discoveries of the age. Indications for its use are increasing.

At this time sufficient clinical facts are established to justify confidence in the results it will bring when used in properly selected cases. From many observers come reports of its power to destroy new growths, particularly those of certain cell types, and yet, further study is required to clearly understand its effect on cell life and the proper methods of applying it before we are able to determine fully its possibilities and limitations in the treatment of conditions heretofore surgical.

While radium rays have produced striking results in a number of benign conditions, its importance as a therapeutic agent is based on the remarkable change it produces in cancer cells.

Perhaps it would seem empirical to speak of curing cancer until we know more definitely what cancer is. We are familiar with the variety of tissue cells invaded by it, and can accurately record the various changes which take place in the growing cell. But we have not been able to determine what it is that causes the cell to take on the erratic change that is found in cancer.

Neither do we yet clearly understand just what it is in radium rays that causes the changes observed in the cancer cell. Until these two mooted questions are settled, we can scarcely hope to approach a scientific basis in the treatment of cancer by radium.

Cancers located internally have heretofore been treated by surgery and the x-ray, both of which have, in certain cases, seemed to effect at least a clinical cure, while in the vast majority of cases only a temporary arrest of the disease was observed, and even this far too infrequent.

In the superficially located cancers, both surgery and the x-ray, along with various other methods, have been employed, with a better percentage of cures, the reasons for which are doubtless their accessibility.

If the results of radium treatment are to surpass our previous methods, it will be due to the destructive effect of the rays on metastasis, since it is at this point surgery has failed us. The opinion held at present is that the hard Beta and the Gamma rays will penetrate tissues about 5 c.m. with destructive effect on the cancer cell. If these two assumptions are correct, I am within my subject in stating that where radium can be brought in contact with an early cancer, it should receive serious consideration in selecting a method of treatment. The tremendous progress in the development of surgery in recent years is likely to invite criticism of any attitude seemingly adverse to it; but there should be no occasion for argument on this point until either surgery or

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radium have established their ability to cure. At this time they should be selected according to our present knowledge of their value in any given case, or used conjointly, if indicated.

The destructive action of radium rays on cancer cells is not questioned now. The accepted working hypothesis is that the normal tissue cell will withstand a radiation which destroys the malignant cell. It is shown that the rays destroy the nuclei of the cell, stopping regeneration, adult cells being more resistant than embryonic ones.

In addition to cell reaction, marked changes take place in the endothelial lining and intima of blood-vessels, causing edematous thickening, followed by obliteration and finally fibrosis.

In this connection I wish to quote from an article by Dr. Ewing in the *Journal of the A. M. A.*, April 28, 1917. In substance, he states that three to five days following radium application there is observed hyperemia of tissue with exudation of lymphocytes and polynuclear leucocytes, with swelling of the cells. In the second week the tumor cells present a characteristic appearance. The nuclei are swollen, homogenous and hyperchromatic; the cells loosen, vacuoles appearing in the cytoplasm. By the third week the liquifaction is active, and marked cell reduction occurs. New tissue stroma forms, leucocytes are over-abundant, and in the stroma new capillaries are formed, followed by granulation tissue and obliteration of malignant cells. That radium can bring about such changes in malignant growth without pain or inconvenience to the patient, is a matter of great biologic interest.

Our present conception is that the rays of radium destroy cancer cells, acting locally upon them. If there exists, as some seem to believe, a constitutional factor in the causation of cancer, then radium, acting locally, can not be regarded as the last word in its cure, though used under the most favorable conditions. However, surgery, the cautery, and roentgen ray, which, until the advent of radium had been the accepted methods of treatment, possessed no curative qualities except locally. So that if there be a causative constitutional factor which radium does not reach, it will have gone as far as did the means we used in the past.

A strong argument for the use of radium as compared to other methods of dealing with cancer, is that it does not require major or cutting operations, as many forms of internal malignancy require, neither does it leave the disfiguring scars when used superficially as about the face, which usually follow the knife or cautery.

Clinicians who have had considerable experience in the surgical treatment of cancer in various regions of the body, after observing the results produced by radium, are adopting it in their work. Since experience has developed a better technique, many of the internal organs which at one time seemed inaccessible to radium, are now treated with a fair degree of success. The general surgeon, the genito-urinary specialist, the nose and throat specialist, the gynecologist, and the rectal specialist, are finding it an indispensable agent in a class of cases which until now were regarded as wholly surgical.

Dr. Henry Schmitz, in a recent publication tabulating fifty cases of cancer tumor of the lower urinary tract, states that clearly operable cases should be subjected to ray therapy both before and after operation, and that borderline or doubtful cases should only be treated with radium.

While Dr. J. M. Lee, in a paper dealing with the treatment of cancer of the prostate, or bladder, or superior maxilla, sums up his views as follows: "I do not mean to say that our surgical results in these fields are worse or better than others; but I do mean to say that the extirpation of the superior maxilla or of bladder or the prostate for cancer had better be laid aside now and radium used."

Dr. Russell H. Boggs states that radium is a specific palliative in inoperable cancer of the uterus, and that we may expect a clinical cure in one-third of the cases.

We can understand that as long as the cancer is confined within the cervix or corpus uteri, surgery is an ample remedy; but when the outlying tissues are invaded, its possibilities are wholly changed.

Dr. Howard A. Kelly, in studying pelvic metastases, states that in 40 to 50 per cent of operative cases of cervical and uterine cancer, metastases are found in the pelvic nodes. Statements from such a source seem to indicate that even Wertheim's operation gives little assurance that we have reached all the outlying cells. Here radium certainly offers new hope.

As to treatment of cancer of the skin, especially on the face, radium in competent hands gives the best results with little, if any, scarring, and the least degree of inconvenience to the patient.

Dr. H. B. Aikens insists that radium should be the method of election in treating cancer of the face, as it can be relied upon to bring about a complete and permanent cure in a large proportion of cases without leaving scars, which often result from surgery and which frequently are the

site of recurrence. He states that a further recommendation of radium is the ease and painlessness with which it accomplishes its results.

The London Radium Institute, in a report two years ago, stated that in cancer of the lip in the early stage, 90 per cent of cases were permanently cured without residual deformity, and a fair per cent of cures in the advanced cases. Such results, when compared to results with previous methods, speak for themselves.

Interesting reports are rapidly accumulating on the results obtained with radium in a number of benign conditions heretofore regarded as wholly surgical. Many uterine myomas, with their resultant clinical manifestations, have been painlessly and clinically gotten rid of. Various forms of metrorrhagia and uterine hemorrhage, due to causes other than cancer and tumors of the uterus, have responded promptly to radium treatment.

Dr. Daniel T. Quigley, discussing fibroid tumors of the uterus, states that 70 per cent of these growths will promptly undergo complete retrogression after proper intra-uterine radiation.

I wish to report briefly from our own service two cases of fibrosis uteri treated with radium:

Mrs. C., age forty-two—Two confinements, last nine years ago. Presented for metrorrhagia September 21, 1919. Examination revealed uterine fibroma, intramural, involving posterior wall, and palpable above the pubes. Fifty milligrams of radium was placed in the fundus for twenty-four hours. Last examination five months later: no menstruation or bleeding since treatment. Tumor mass reduced to half the original size.

Mrs. M., age forty-nine—Brought to hospital on a cot February 1, 1920. Very pale and weak. Marked evidences of exsanguination. For three years past had had frequent uterine hemorrhages. Last two months had been confined to bed by reason of excessive bleeding. Uterine fibroma as large as cocoanut. Blood picture showed hemoglobin 20 per cent; red cells 1,700,000; white cells, 1,400.

Physical condition contra-indicated surgical procedure. Fifty milligrams of radium passed into uterus and 500 c.c. of whole blood transfused. Radium removed in twenty-four hours. All bleeding stopped promptly with treatment.

March 25—No further hemorrhage and tumor noticeably smaller. Patient up walking around and improving rapidly. Blood picture greatly improved.

Cases of splenic leukæmia following radiation of the spleen show a prompt retrogression of the splenic tumor, and a marked improvement in the blood picture is observed. In lymphadenitis or Hodgkins' disease remarkable changes in the glands treated are produced. We now have un-

der observation a case of Hodgkins' disease clinically well at this time, eight months after treatment.

In closing, I wish to state that radium, owing to the nature of its properties, will be found disappointing to him who uses it empirically. Its full curative power will be attained only in the hands of one who is willing to give to it careful study. He should understand its physical qualities, its possibilities, and its limitations, and be familiar with the hystogenesis, life, and function of cells, both malignant and benign.

There is still another important point not to be overlooked in radium work. Workers in this field have recently reported that in the application of radium there is, in addition to the local reaction, a general physical reaction, observed to some degree in practically all cases treated. It is called radium toxemia, and evidently is due to a setting free of toxins in the body.

Dr. G. S. Willis, in the Medical Clinics of North America, September, 1919, states that this condition is shown by a rise in temperature, a lowering of blood-pressure, increased pulse rate, sometimes tachycardia, with nausea and vomiting, attended by a feeling of prostration. When considerable reaction occurs, he advises that treatment be temporarily discontinued.

Finally, to summarize:

First, as better technique is acquired, an appreciable improvement in results is observed.

Second, its scarcity will doubtless in many cases cause the adoption of other methods of treatment, the results of which are inferior to radium.

Third, concerning cancer, it should, when possible, be used in all cases considered inoperable. In the early cancerous lesions of the cervix uteri, rectum, mouth, tongue, throat, and skin, many workers now believe it should have first choice.

Much still remains to be learned concerning its use. It is not a panacea, nor have we witnessed the limit of its possibilities. Continued experience and study will in the end place it on a scientific basis to which it is destined.

Discussion

Dr. Jay F. Auner, Des Moines—I think you will all agree with me that we are indebted to the essayist for this very practical and scientific paper, and the very excellent presentation that he has given us in the time allotted to him. It is medical history that any physical therapeutic agent, no matter what it is, is more or less on trial for some considerable period before we know what is its true value, and radium is no exception to this rule. I am going to discuss this.

paper from my own standpoint, that of a physician who is limiting his activity entirely to dermatology. As the essayist has told you, radium has been more or less standardized in its application by what we understand as the milligram hour; that is, one milligram of radium multiplied by an hour of time. For instance, if we employ a plaque of ten milligrams four hours we administer a forty milligram dose. In the last decade radium has been on trial. For the first five years of that period it constantly encountered more or less opposition and skepticism on the part of the more conservative element of the profession, and perhaps justly so because it was at this time that it was in its experimental stage. However, for the last five years I believe the facts will bear me out in stating that radium has made for itself a place, an unquestionable place among the standardized physico-therapeutic agents. This is particularly true in the skin epitheliomata, in the reduction of keloids, in the successful treatment of lupus and the various tubercular affections of the skin. In surgery, as the essayist has pointed out, men are getting wonderful results, especially in the uterine fibromata and in the acceptable cases of metritis with metorrhagia. In regard to its employment surgically, in a comparatively recent monograph covering some 210 cases of uterine fibroma, Kelley has established for radium a remarkable record. But he points out to the physician the necessity of employing a sufficient quantity. And I believe it is the error of those who are not experts in the use of this agent that they use perhaps too little of the salt in a given application. We know how expensive is this agent, and it is with difficulty that the physician can sometimes employ an adequate quantity. And I think right here is the crux of the situation, the reason why there have been so many failures in the application of radium in some of the uterine fibroid cases and even in some malignant conditions of the cervix that would have been entirely curable with radium had a sufficient quantity been used in massive dose. Kelley points out that not less than 100 milligrams properly filtered should be employed. This filtration should be entirely adequate to prevent the possibility of a vesicovaginal or a rectovaginal fistula, an accident that would easily occur were not this filtration sufficient. Kelley goes on record as saying that the individual applying radium should be conversant with the normal tissue resistance. He should understand the filtration of the product, and the practical, proven dosage in the case. And indeed, he has dared to use a greater milligram-hourage than most operators up to this time, employing in these intra-uterine cases, either the fibromata or the malignant conditions, 1500 milligram-hour doses at one treatment. When I say one treatment, I mean a seance covering perhaps a period of five days, every other day, not necessarily at one given exposure.

Dr. J. W. Rowntree, Waterloo—I appreciate very much the paper given by the essayist and also the discussion by Dr. Auner. Within the past year I

have had considerable experience in treating the various conditions mentioned, and have treated six inoperable epitheliomas of the uterus. Almost within an instant, we might say, following the first treatment or possibly the second treatment the pain is relieved. I have also treated carcinoma of the rectum. We know that these are difficult surgical propositions, and we hope to be able to get some results in the more vascular cases. I have one case in which there is marked alleviation of the symptoms. Relative to breast conditions, instead of using the x-ray we are using radium, covering small circumscribed areas. We use a considerable amount, from 50 to 100 or more milligram-hours. We give the conditions surrounding the growth a thorough radiation afterwards, taking in both breasts and all the glands which are contiguous. As stated by the essayist, I believe a great deal may be expected from radium. In comparing the work done by the x-ray with that achieved by radium, we may say that it is like telling a boy to do the work of a man. Radium is so much stronger and more effective in work, that in many cases I use it in preference to the x-ray. Even in acne, in which the x-ray ordinarily does well, there are some cases so bad that radium is indicated.

Dr. Bamford—I have been interested in the kindly consideration of this paper. In answer to Dr. Auner I will say that there is a difference of opinion in the minds of men advanced in experimental work with radium as to the amount that should be used. Some have used tremendous amounts. Dr. Kellèy, whose work has been mentioned by Dr. Auner, has used it in great amounts, and others have done so. But I think you will find that each one of these men has come down to a decidedly less amount for practical use, they are not using so much. Dr. Auner speaks of the difference in the cell resistance to rays observed in the various tissues. That is the key to successful radium therapy, of such importance that we cannot discuss it in the limited time, five minutes. The difference in the effect of radium on various cells is very great. For instance, the epithelia lining the hair follicles are very susceptible, while squamous epithelium is very resistant to the rays of radium. This question is of vital importance and much experimental work has been done in connection with it. The age and variety of the cell is the factor that governs the amount of radiation to be given. In studying tumors, either malignant or benign, if we take into consideration the cellular changes which take place, we will have the key to the effect of radium, and will have gone a long way in determining how much radiation the tumor should have. I was not able to hear all of Dr. Rowntree's statements concerning hemorrhage in the conditions he referred to. I may say that so far as I have had experience in the cases mentioned, which is limited, radium has proven successful in the management of intra-uterine hemorrhage and in conditions of the character referred to by Dr. Rowntree.

SOME SUGGESTIONS IN THE TREATMENT OF ACNE*

J. F. AUNER, M.D., Des Moines

I shall limit my discussion of acne to that form most commonly encountered by the general practitioner and frequently the treatment of which is so sadly disappointing.

I refer to common acne, the *acne vulgaris* of the dermatologist, that chronic inflammatory disorder involving the sebaceous glands so commonly encountered in both sexes in adolescence and adult life.

It rarely occurs before the onset of puberty and often disappears spontaneously at the twenty-second or twenty-fifth year. As has been intimated, *acne vulgaris* is a chronic inflammatory disorder occurring in and around the sebaceous and pilo-sebaceous glands characterized by papules and pustules.

The lesions may be superficial covered only with the epidermis, which we recognize as *acne simplex*, or situated deep in the corium in the form of a miniature abscess from a broken down sebaceous gland, which we term *acne indurata*.

Acne, next perhaps to eczema, is the most frequently encountered dermatosis that the general practitioner is called upon to treat, constituting as it does more than 7 per cent of all skin diseases. The diagnosis of acne should offer no difficulty if it be remembered that it is primarily a disease occurring under twenty-five years of age, and that the site of predilection is the face, particularly the forehead, cheeks and chin, although any part of the face and neck may be involved.

Occasionally the shoulders and back is attacked, and in rare instances, the anterior surface of the chest. There is usually complicating in acne, an oily seborrhea of the entire skin and scalp. The integument has a shiny, greasy, relaxed appearance, with plugged sebaceous follicles known as comedones commonly present.

The essential lesion in *acne vulgaris* is a papule developing at the site of a sebaceous follicle, followed later by pustulization, and finally desiccation with more or less crusting. Infrequently the primary papule marking the sebaceous retention cyst disappears by absorption, and a few may persist as sluggish, subcutaneous nodules.

On the whole, the clinical picture of *acne vulgaris* is readily recognized by even the laymen himself, and its disfiguring blotches are often of no little humiliation, and economic loss to the patient.

The diagnostic features of acne are the evident follicular character of the lesions together with the associated comedones, the oily hyperæmic skin, the characteristic systemic disturbance, the age of the patient and its chronic course.

The disease can scarcely be mistaken for anything else. Possibly in the hands of a careless observer, at times it might be confused with a papulo-pustular syphilid or a variola.

In the case of the syphilid mentioned, we have the concomitant clinical feature of syphilis—the general adenopathy—particularly the palpable epitrochlear and the anterior and posterior cervical glands—the mucus patches in the mouth, as well as condylomata about the anus and genital folds.

Moreover, it must be remembered that the papulo-pustular syphilid is not so invariably associated with the follicles of the skin as well as the absence of comedones, and that the luetic lesion has a special predilection for the forehead, nose and lips, and tend more to a circinate grouping.

Furthermore, the syphilitic lesions are generally distributed over the body, and not confined to the acne areas. A discrete mild form of small-pox might appear to the inexperienced as an acne, if the lesions alone were taken into account, but the lesions of variola are larger and more pronounced, than that of acne. They are always of acute development and can usually be demonstrated on the palms of the hands where acne never occurs.

Acne vulgaris is primarily an affection of the sebaceous glands, and the pilo-sebaceous follicle due to causes operating locally as well as systematically. While the bacteriology of acne is unsettled, Sabouraud of Paris and Gilchrist of this country, have proven that the lesions of acne both the typical papule and pustule as well as the comedones can be produced by a micro-bacillus. In a given case of acne, we probably have, operating both the bacillus *acnes* and the staphylococcus *albus*.

Gilchrist is even bold enough to reverse the usually accepted order of etiological factors and declares that the constipation, headaches and anemia so often present in *acne vulgaris* is the result of an intoxication produced by the biological activities of the bacillus *acnes*.

The fact that the patient's blood agglutinates these bacilli, certainly tends to substantiate his theories. Systemically in all acnes, we have operating certain predisposing factors, such as the toxins and by-products of digestive disturbances. We often encounter an attack of persistent acne

*Read at the Austin Flint-Cedar Valley Medical Society at Hampton, Iowa.

after a typhoid fever in an individual never before so affected.

An improperly balanced diet with a preponderance of animal fats and sugar unquestionably influence acne unfavorably, if indeed, it does not in many cases act as an exciting cause.

The products of autointoxication from an inadequate bowel elimination irritate the sebaceous glands. One of the certain factors concerned in the etiology of acne is the adverse stimulation of the sebaceous glands by the unneutralized hormones of the glands of internal secretion.

Acne is a disease of adolescence—a period when the pilo-sebaceous glands are powerfully stimulated by the unbalanced hormones incident to the changes of the maturing individual. When acne occurs in women it is apt to be aggravated at the menstrual epoch. Again, certain focal infections are known to cause acne. I have repeatedly noted severe cases of acne with multiple cutaneous abscesses, in patients beyond the classical age of acne, speedily clear up after having one or more crowned teeth extracted.

In every case of acne of young people, I make it a rule to carefully examine the tonsil. Contrary to the general opinion, acne is rarely due to sexual irregularities.

The average practitioner never gets favorable results in the treatment of acne because his technique is at fault and because he does not bear in mind that acne is always a chronic condition demanding persistent local and systemic therapy.

Accompanying acne, there is generally some systemic disturbance and as a routine treatment I insist on some sort of a neutralizing laxative such as the modified *mistura rheiet sodii* of the new pharmacopœia.

Formula for which is as follows:

℞ Ext. Flu. Ipecac.—m. xv
Ext. Flu. Rhei.—dr. i
Spt. Mentha pip.—dr. ii
Sodii bicarb.—oz. iss
Glycerine—oz. iii
Aqua destil q. s. ad.—oz. viii
Misce.

Of this preparation we usually prescribe one or two drachms t. i. d. p. c. instructing the patient to shake well, the mixture.

We warn the patient against the use of so-called rich, greasy foods—fried foods, candy, pastry, chocolate, malted milk and ice cream. Foods that cause a flushing of the skin are rigorously proscribed, such as soups, hot coffee and tea and hot cocoa or chocolate. We advise the

use of steamed cereals, fruit and vegetables and lean meats, avoiding pork in all forms.

If there is constipation despite the above formulas, we add f. e. cascara sag. in xv m. doses to the *mistura rheiet sodii* t. i. d. p. c. If there is a chronic infection of tonsils, teeth, or accessory nasal sinuses, it is corrected by experts in that line, and if adenoids are present, they are excised.

Locally, some nascent preparation of sulphur is prescribed, such as Vlemminck's solution or what, I like better the *lotia alba* of the Vanderbilt clinic which is made as follows:

℞ Potassa Sulphurata.—dr. i (Squibb)
Solve in aqua destil. q. s.—oz. ij deinde
Zinc Sulphate—dr. i (Squibb)
Solve in aqua destil. q. s.—oz. ii
Misce. ft. Lotia albae—oz. iv
(Shake label)

The face and areas affected are scrubbed with soap and warm water then rinsed with cold water and dried with a towel and the above lotion applied well rubbed in at bed time. An extra coating is then sponged over the surface of the skin and allowed to dry on over night. The next morning the same technique is applied to the affected area and the white lotion allowed to dry on and remain until the individual is required to leave his residence, when the face is washed with cold water and the following lotion sponged over the affected skin and allowed to dry on.

℞ Pulv. Acid Boric—oz. ss
Glycerine—dr. ii
Cologne—dr. i
Spt. Vini Rect.—q. s. ad.—oz. vi
Misce.
(Shake label)

And the following night the same technique with the white lotion repeated and so on, morning and night.

An important consideration so many practitioners overlook is the fact that never at any time should the patient be permitted to use hot water in washing the affected area. It is the routine with some physicians to order an acne patient to steam the face—a practice which I only mention to unqualifiedly condemn.

Vaccine therapy has been widely employed in the treatment of acne, both the stock and the autogenous vaccines. However, in the majority of cases the results have been anything but satisfactory.

Gilchrist with his wide experience in the vaccine therapy of this dermatosis, recommends the autogenous preparation of the *bacillus acnes*, in small doses—from three to ten million to be re-

peated at five day intervals, gradually increasing to 100 millions of the dead bacilli if necessary for results.

Our experience at the Vanderbilt Clinic with vaccine therapy as well as my own personal results in private practice, has proved so supremely disappointing that I have practically abandoned its use in this disorder.

The ultra-violet ray has come into more or less prominence in the treatment of acne, in the hands of some dermatologists, and while its effects are entirely harmless, the technique is so difficult and the expense of operating the apparatus is so burdensome, that the agent up to this time is not practical. Moreover, most patients object to the violent reaction, the annoying blistering and temporary mutilation which is a corollary of this technique.

I have reserved until the last, the mention of what I consider to be the most efficient auxiliary in the treatment of all forms of acne—the fractionally application of the x-ray to the affected skin. Indeed, without so dependable a therapeutic armamentarium, I would feel myself sadly inadequate in handling these acne cases successfully.

However, in the case of the busy general practitioner, the objection arises again, of the difficulty in acquiring the necessary technique. The therapeutic use of so potent and dangerous an agent as the x-ray, both to the patient and the operator, required long and careful training. The operator must thoroughly understand all the constants of his machine, the quantity of his tube, and be able to accurately measure the quantity of the given dose—a technique only acquired with experience.

Some operators use a soft tube, but personally I prefer a hard Coolidge tube of a quality not less than a nine of the Benoist scale. After protecting the hair, eyebrows, and lips with heavy lead foil, I radiate the skin at a distance of at least fifteen inches, and never exceed a fourth of a Holzknecht unit at a given exposure which I repeat every five to seven days until the face clears up, or until not to exceed two Holzknecht units altogether have been employed in any one patient.

As Pusey of Chicago has pointed out, the rationale of radio-therapy depends upon the fact that fractional exposures of the x-rays diminishes the functional activity of the sebaceous glands as well as the size of the relaxed follicles, thus improving the texture of the skin as well as correcting its glandular activities.

It is up to the skilled operator to secure only the selective or tonic action of the roentgen ray

and avoid over-exposure or too long continued use of this potent agent, either of which must result in severe burns or permanent atrophy of the skin with disfiguring telangiecteses.

ENCEPHALITIS LETHARGICA*

FRANK M. FULLER, M.D., Keokuk

During the past two years there have been increasing reports of cases which have been given the name of encephalitis lethargica, epidemic encephalitis, or in the lay press sleeping sickness.

This paper is presented, with the histories of some cases, with the sole purpose of emphasizing this fact, viz., that in this disease which had, up to recent date, been comparatively rare and widely separated, we have a grave responsibility. It will not always remain rare and of only curious interest to most of us. It will, very probably, sweep down upon us in widely spread and epidemic form. It will then tax to the utmost the skill of, not the man of wide experience alone, but will come within the responsibility of all of us whose work is necessarily limited.

It is in the history of all disease, which develops an epidemic sweep, that it has for long periods existed as isolated cases. Influenza was known and treated by the older practitioners as an occasional case long before it degenerated into "grippe" or "flu" and became a household terror. Poliomyelitis is described in the oldest text-books and was feared by the profession as an insidious foe, long before the lay public learned that infantile paralysis was laying low thousands of children in a single city and appearing widely from coast to coast.

In these instances named, as well as all diseases of similar character, the specific source of infection has been the same when in isolated cases or when in widespread epidemic form. Epidemics develop only after a sufficient number of foci have been established to give a favorable opportunity for spread when some special conditions arise to cause a general lowering of resistance.

The clinical symptoms which have come to be classed under the name encephalitis lethargica, have been recognized over a long period. The literature gives very definite account of cases having been reported in Germany, Poland, and some of the Balkan states many years prior to the more recent reports of the 1917 epidemics in Vienna, Italy, Hungary, France and England. It is true that there are no definite reports of cases

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in the United States prior to the return of our soldiers from Europe.

Since the men have come back, however, there has been a rapidly increasing number of cases reported. These first came from the Atlantic border states, have gradually been seen through the Middle West and are now not uncommon on the Pacific slope and from north to south throughout the country. In Iowa, so far as I have been able to learn, there have been twenty-eight cases in twenty-six out of the ninety-nine counties in the state. These cases are not confined to any one section but come from all over the state.

We must take into account, in reporting the number of cases, the possibility of an error in diagnosis in a disease with which the profession as a whole is necessarily unfamiliar. But even discounting by reason of possible error, yet the fact remains that there have been a sufficient number of definite cases to show that the disease is now present in a number of localities.

If present as a clinical entity then the specific cause of the infection is prevalent in the state. All investigation, to date, leaves no doubt that this disease is a true infection.

This being true, then it follows that this infectious disease will, in all probability, sooner or later show the course of all other infectious diseases, and develop in epidemic form of more or less severe degree.

Because of the fact that it is, to all of us, a new disease, and our knowledge of it is only the didactic knowledge of the literature of recent months, or a very limited clinical knowledge from a few cases I felt that it would not be burdening this program to invite your attention to a few facts concerning it. Permit me to say, however, that it was only after our program had been printed that I learned that this subject had been presented before this Society last year, while I was out of the country.

It would be presumptuous in me to attempt to present to such a reading body as I know this society to be, any close detail of the pathology, etiology or course of the disease. You have had access to the same literature as I, and have no doubt availed yourselves of such facts as have touched your interest. It is true, however, that until we have our attention drawn by personal clinical touch with a new disease the facts of literature do not stick so closely by us.

Because of a very fixed conviction that we will all have a chance to get this personal clinical touch, I feel that a little emphasis now may help us all to be better prepared to meet our responsibility when it comes; for it will come suddenly

and in varying clinical forms so that we may not have the opportunity to review.

The definite cause of the disease has not yet been found. In recent literature there are many claims for the finding of this and that micro-organism but I will not burden you with the references. The cause is known to be some form of infection, but further we do not know.

The onset is usually very sudden. In many cases a very accurate time can be given as to onset of the more prominent symptoms. Probably a more intimate study of the disease will give us more knowledge of the prodromata if they exist, and with a definite etiology, there will come a period of invasion of which we now know nothing. The two most outstanding symptoms are the lethargy and the involvement of the third nerve, with also some cases involving the facial and other cranial nerves. The lethargy varies in degree from a slight drowsiness to a deep stupor from which it is difficult to wholly arouse the patient. The most striking thing, however, is that while the patient seems to be absolutely unconscious, he can, by often slight effort, be roused into perfect consciousness, but from which state he quickly lapses into his former indifference.

This state usually is a very early, often the first manifestation of the disease and continues for from one to eight weeks. Even after apparent restoration to health many cases are reported as remaining sleepy much of the time.

The cranial nerve affections show, chiefly, in the drooping of the lids, slow movement of the eyes and to some degree in the pupillary reflexes. In some cases there has been more or less facial paralysis and involvement of the tongue.

I will not attempt to go into detail as to the pathology of the disease. The material for study has, thus far been limited. Flexner, in the *Journal A. M. A.*, March 17, 1920, says, "we may now regard lethargic encephalitis as representing a definite pathologic as well as a clinical complex and to consider it as a distinct disease. The histologic lesions may be both extensive and profound. While any part of the gray matter may be involved the structures particularly affected are those about the third ventricle, the aqueduct of Sylvius, the lateral ventricle and optic thalamus, and the pons and medulla." Reference is made to Dr. Flexner's article for the detailed pathology, which is too long and out of the purpose of this paper.

There has been no evidence thus far adduced, which shows any pathology from the examination of the spinal fluid. In this regard the disease shows marked variance from the findings in an-

terior poliomyelitis and in tubercular meningitis, two diseases with which cases have not infrequently been confused.

In the course of the development of cases, fever has not been a constant symptom, although there is, no doubt, more or less pyrexia at some time in the course.

Tremor of varying degree shows in quite a per cent of the cases. It develops more plainly when active or passive movement is attempted. Reilly of New York reports in a majority of his cases a rhythmic convulsive twitching of the muscles of the abdomen in the neighborhood of the eighth and ninth ribs.

There are few cases reported which do not refer to diplopia as an early, and very well defined symptom.

It would be interesting to go into close detail in reference to the symptomology, the course and the prognosis of this interesting disease, but that is not the purpose of this paper. In order that we may gain a wider knowledge of the presence of the infection in the community, it seems wise to report, in as close detail as possible, all the cases coming under our observation. This accumulated evidence will not only give us a greater mass from which to form certain judgments but will be of definite value in helping to locate the foci of infection, from which epidemics are, sooner or later, bound to develop.

I wish to report three cases, one of which was under my personal care and two which were very kindly reported to me by Drs. Reimers and Doering of Ft. Madison, Iowa, and by Dr. Rudolph of Nauvoo, Illinois.

Case 1. F. A. L. (referred by Dr. Jenkins, Carthage, Illinois). College professor, age twenty-eight, single, weight 200 pounds, height six feet four inches. Family history negative. Personal past history—measles in childhood, no other illness, always well and athletic. All functions normal.

October 22, 1919, was very anxious about football game, was awake all night, had some nausea next day, was very wakeful next night and had some nausea and vomiting. Football game was lost next day, after considerable excitement, but patient slept well that night and for several nights following. During this time he had slight but constant nausea. During the day he would become very dull and sleepy in the class room and all through the day when sitting. Would become drowsy at the table or when in conversation. Would be awake when out in the open, but was not keen. Continued teaching his classes but under the great handicap of drowsiness. November 6 took football team on trip. During travel was confused about the number of men and tickets. Memory defective, and while drowsy was

able to attend to affairs of the game. Was mentally slow. Had some aphasia and after return from trip noticed some diplopia. Somnolence increased and November 8 had fever. Was referred to me November 9. At that time had quite marked aphasia. Went to sleep while talking but could be easily roused. Said he was as well as ever, had fair appetite, good digestion, and normal bowel movements.

November 10—Examination: ears, teeth, throat, chest negative. Slight mitral stenotic murmur. No cardiac hypertrophy. Liver slightly enlarged. Abdomen soft, bowel movements normal. Patient very drowsy, jerking of all muscles in sleep. Temperature 100 Fahrenheit, pulse 98, respiration 18. Eye ground examination by Dr. Lapsley negative. Accommodation good, color test negative. No difficulty in speech. Blood Wassermann negative. Blood examination hemoglobin 85 per cent (Dare) reds 6,040,000, whites 8,300. Differential polys 65 per cent sm. lymphocytes, 22 per cent lg. lymph. 4 per cent lg. mononeuc 4 per cent, eosinoph. 3 per cent, transit. 2 per cent, mast. 2 per cent.

Urine twenty-four hours 48 oz. Clear, ac., 1.018. No sugar, alb. indican, acetone. Microscope, few leucocytes and epithel. cells.

November 13—Seen by Dr. Frank P. Norbury. Patient has mild delirium, somnolence, asthenia more marked, temperature 99.6, restless. Motor insufficiency: facial and motor oculi, noted in associated movements and in co-ordination—equilibrium, station, gait, etc. Speech involved. Reflexes, deep increased, superficial, showed Babinski, Chaddock and Gordon. No clonus, no tremor. Spasmodic twitching was noted, also involuntary movements of large amplitude—all showing motor irritability. Mental: In lethargic condition, could be roused and when he was, showed definite orientation as to time, place and person. He could converse with full knowledge of events, experience, etc. Eye grounds and blood Wassermann again negative. Patient continued to make a gradual improvement in all symptoms but gained very slowly in strength, and was discharged from hospital December 23, 1919.

This man was in overseas service, but could get no history of an influenzal infection unless it was a severe cold he had in Scotland shortly before coming home.

After a season of out door work he is now back at his work and reports feeling as well as usual except that he is not yet back to normal strength, and he still gets drowsy at times.

Case 2—Reported by Dr. G. W. Rudolph, Nauvoo, Illinois. Mr. E. B., age twenty-two, soda clerk. Personal history negative. Complained that after an auto ride January 18, 1920, he suddenly became conscious of a blurred and double vision. Physical examination at this time revealed only a mild, acute catarrhal condition of upper respiratory tract. Temperature and pulse normal and patient apparently, being otherwise quite well. Did not see him again until January 22.

Eye symptoms were now slightly aggravated and photophobia was marked. Temperature now 101.2 and he spoke of being drowsy. Appetite good, all catarrhal symptoms gone.

For next ten days temperature varied slightly between 101 and 102 degrees fahrenheit. Patient now slept almost continuously but could be roused when sharply spoken to. He suffered no pain and upon being questioned always said that he was feeling well.

If a conversation was attempted, however, he would invariably fall asleep, and would answer direct questions only briefly. Mind seemed clear all this time and he would take his food, when offered and had good digestion. He could not bear any light in the room. By February 1, temperature became normal and he was able to keep awake for longer intervals, sight also improving. Made an uneventful recovery and at this date appears well except for a very slight blurring of vision, which, however, seems to be steadily improving.

The laboratory and neurologic findings in this case are not reported. No Wassermann, but venereal denied and no reason to suspect it. Eye examination made by Dr. R. S. Reimers. Diplopia, no marked paralysis of motor ocularis manifest. Nystagmus present in all directions but most marked when looking downwards. Vision os. 20/25, od. 20/30. Pupillary reaction sluggish. Eye ground examination, negative. Nose, negative. Six weeks later was feeling quite well but still had slight nystagmus. Diplopia had disappeared. Report within the past few days says that patient is not so well but no details obtained.

Case 3—Reported by Drs. Doering and Reimers, Ft. Madison, Iowa. The details of this case cannot be given except to say that it was a little girl who had, upon consultation, been ill for some time. She complained of general muscular soreness and aching of the muscles. Had some fever. Had diplopia and later became very drowsy and slept most of the day for a long time. This case is merely reported as one of those cases of doubtful diagnosis but which suggests strongly the probability of a focus of infection.

In all of these cases reported, there stands out the prominent symptoms of drowsiness, from which patient can be easily aroused, but into which he quickly returns. The involvement of the third nerve, with ptosis, diplopia, or facial involvement. In all three there was some degree of fever. Asthenia was marked in the two where information was obtained. In two there was definite evidence of toxic infection, as indicated by the aching and muscular soreness. No direct evidence of influenza was secured in any case. Many have thought that this disease was a sequel or a definite variance of influenza, due to the fact that in many histories that disease had been present just preceding the onset of the encephalitis, and because the latter had been unusually preva-

lent at the time of the appearance of the late influenza epidemic.

The trend of opinion today is that the two are separate and distinct diseases and that their appearance together is only a coincidence.

These cases are reported merely to indicate that three sources of infection have been present in a radius of a few miles, within a few months' time.

There have been a number of cases of so-called ptomain poisoning reported in the southern part of the state. In most of these cases the physician has reported that a more careful consideration of the symptoms has led him to suspect that there might have possibly been an error in diagnosis, and that encephalitis might have been the real disease.

Through a very incomplete correspondence there have been reported twenty-eight cases in twenty-six counties in the state. There have, without doubt, been more.

If this paper, in merely calling your attention again to this disease, will stimulate an increased interest and a more definite study of this type of encephalitis it will have served its purpose.

The one emphatic point is that if encephalitis lethargica is like every other infection in its tendency to become widely epidemic, at times, then we must be reasonably sure that we as physicians, must be well prepared, long in advance of the laity, to meet the condition as it arises. If careful reports are made as cases arise, that will give a more full knowledge to the proper authorities as to the extent and location of the cases.

Discussion

Dr. Daniel J. Glomset, Des Moines—I consider this a very timely paper, excellently presented. There can be no doubt that this disease is now rather common in our state because within the last year or so we have seen about twenty cases in Des Moines. I saw two cases in France and also had opportunity to do post-mortem work on two, and since returning to this country have had opportunity to do post-mortems on three. One point I wish to emphasize is the fact that this condition so far as we know, has nothing to do with influenza. It is a very interesting thing to observe that the people who come down with it usually tell you that they were suffering from an acute coryza a short time prior to the onset of the encephalitic symptoms. I wish to speak particularly about the autopsy findings of these cases. In your text-books and published articles on the subject, you will find mentioned the appearance of petechia in the brain. These are not as common as one is led to think from the descriptions in papers dealing with this disease. The characteristic findings in those cases which I have post-mortemed have been a hyperemia of the brain with, in two cases, an appearance that suggested a beginning meningitis; that is,

there have been grayish deposits around the blood-vessels not only at the base of the brain, but also on the vertex. In the first case I saw, I thought this was a beginning purulent meningitis, but I found that the deposits are due almost exclusively to small round cells. The characteristic findings which I have noted, therefore, are first of all a hyperemia, which, by the way, is most marked at the base, and, second, distinct perivascular infiltration of small round cells. This picture is strikingly similar to that of poliomyelitis except that in poliomyelitis these changes occur in the cord. The fact that most of the cases begin with a slight coryza and give this picture which is similar to that of poliomyelitis, leads me to believe that the organism is of a very similar nature to that of poliomyelitis.

Dr. D. C. Brockman, Ottumwa—I have seen four cases of encephalitis lethargica and a possible fifth case. One I saw last night. I would like to emphasize the importance of diagnosis. In the first and second cases I saw I did not make a diagnosis. The first case was peculiar in that the patient had been very ill with influenza followed by severe rheumatism of which he had had several attacks before. I saw him two or three times during his rheumatic attacks. I went away for a couple of weeks and upon my return found him in coma, with dilated pupils, and I could not arouse him at all. There was a history of delirium before the somnolence came on. I had made a diagnosis, of course, the doctor who called me in consultation was obliged to make a diagnosis, and we called the condition rheumatic meningitis and made our prognosis accordingly. The man died promptly from what we now know was encephalitis lethargica. The next case I saw, which occurred not long after that at Fairfield, was one in which I made an anatomical diagnosis because at that time I had never heard of encephalitis of this type, calling it an acute glossopharyngeal (bulbar) paralysis. I made the same prognosis in that case and they took him to Chicago, it being the fifth case Dr. Bassow reported in the *Journal of the A. M. A.* The man died. The third case I saw was in the terminal stage, with the classic history. The fourth case was the only one that recovered. I saw the patient about the fourth day after somnolence began. She had diplopia, ptosis, the vomiting beforehand, but this was not conclusive because she was four months pregnant. In that case we did lumbar puncture, withdrawing spinal fluid. The next day she was very much better and able to be up. Two weeks after this she had a relapse, but, without lumbar puncture, she recovered. The diagnosis is one of the most important things in protecting the doctor, but it does not do very much good for the patient. I doubt whether any treatment does any good except lumbar puncture or possibly urotropin. The pathology is unknown. Flexner tells us that the tests he made on material from the diseased gray matter in the brain did not produce poliomyelitis in the monkeys that he inoculated. As Dr. Glomset has said, it is a toxin very closely related to and acts very much like the one that causes

poliomyelitis, but is of a different etiology.

Dr. Frederick H. Lamb, Davenport—I would like to say just one word about the examination of the spinal fluid with reference particularly to its cellular content. If the spinal fluid be carefully withdrawn in a case of this kind, carefully taken care of after it is drawn and examined immediately, a good deal of reliance can be placed on the findings. Perfectly normal spinal fluid contains but very few cells. One, two or perhaps no cells which actually stain is the usual finding in normal spinal fluid. I think that the pressure of six or eight cells per cubic millimeter is too high to be considered strictly normal. If there be ten, twelve or fifteen cells, this is, I believe, an element which is very valuable in establishing the early diagnosis of encephalitis.

Dr. G. H. Hill, Des Moines—I would like to read this letter because it is from a physician in Iowa whom many of you know:

"Nevada, Iowa, May 8, 1920.

"My Dear Doctor:

"You will be pleased to know that my brother, Dr. E. R. Smith of Toledo, is slowly but surely regaining his health and normal condition. He was taken sick March 4 with encephalitis lethargica. His sickness began about March 1. His memory of recent events is now nearly normal, his judgment is perfect, his general health slowly improving. And now we must keep him very quiet for a long time in order that he may entirely regain his strength. I wish to thank you again for your kindness to him and to me.

(Signed) DR. F. S. SMITH."

Dr. Fuller—In reporting his autopsies, Dr. Glomset wished me to say that he had failed to find any organism of any kind that would suggest the cause of the trouble. Dr. Brockman has, I think, touched the point that I wanted to make of value in presenting this subject, and that is the necessity for diagnosis. We look these things over and because we have never seen a case of encephalitis, because it is a new disease notwithstanding its prevalence, we do not know what to call it. My purpose in presenting this paper was to emphasize the one particular fact that it is with us, it is here, it is an infectious disease, it is spreading and has been spreading from the Atlantic to the Pacific and from north to south. We have not seen it perhaps, but we are going to see it. The literature is full of information that will guide us as to the diagnosis. We do not always look over published articles with big names that are unfamiliar to us. But if in presenting this subject today I have been able to stimulate you all to an interest in the literature on this disease so that you will more carefully and thoroughly study it, keeping in mind the fact that you may run into this condition at any time, then when you do meet it the diagnosis will be quickly and definitely made. No one has said anything about the prognosis in encephalitis lethargica. According to the series of cases quoted, anywhere from sixty down to thirty per cent die. The prognosis is, of course, based upon the variety and severity of the disease.

The Journal of the Iowa State Medical Society

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THE STUDY OF MEDICAL HISTORY

"The study of medical history is slowly but surely coming into its own in this country. For a long while it was a field worked chiefly by the Germans, and to a less extent by the French and Italians, but now in England and America, there are signs of an awakening to its importance, a recognition by others than specialists or semi-specialists."

These are the words of Dr. John Ruhrah of Baltimore in the Medical Record for March 12, 1921. We are led to make these observations from a paper published in the Iowa State Medical Journal for March, 1921, by Dr. O. A. Williams, one of our oldest members and a man much respected for his wide information, and from a criticism by one of our younger members, Dr. F. R. Holbrook of Des Moines.

The fine spirit manifested by Dr. Williams in bringing to our notice the valuable contributions of an era forming group of great men in our profession, and of Dr. Holbrook in his friendly criticism, calling attention to the serious errors which medical writers may fall into from inattention to accurate statement. Very few men can rely on memory alone in fixing accurately the date of occurrences and the full facts as to the nature of the contributions, or the credit which should be divided between co-workers and independent workers. Dr. Holbrook has well illustrated this in relation to ether and chloroform. We cannot fairly speak of Morton in relation to

ether without mentioning Wells, the dentist, or Dr. Charles T. Jackson, the chemist; or Dr. Warren, who first operated upon a patient under ether October 16, 1846; or of Dr. Henry J. Bigelow, who gave it to the world in a paper published in the Boston Medical and Surgical Journal, November 18, 1846; or Oliver Wendell Holmes, who proposed the terms, anesthesia and anesthetic; or Sir James Y. Simpson, who on January 19, 1847, introduced ether into England, and on November 4, 1847, substituted chloroform; and then behind Sir James Y. Simpson comes the discoveries of Liebig, Guthrie and Sonberiran. Thus, it will be seen that an accurate historical account brings out a group of workers, who brought to Morton, the great distinction of introducing ether to the world.

With Oliver Wendell Holmes the facts are different. He did not undertake to say what caused puerperal septicemia but believed the disease was a contagion carried from one patient to another by the obstetrician or midwife and closely related to erysipelas, and published his observation February 13, 1843. Pasteur did not make his discoveries on fermentation until 1857 and the streptococcus pyogenes of puerperal septicemia in 1878-9.

Dr. Ignaz Philipp Semmelweis of Vienna was the true pioneer of antiseptic obstetrics. In observations between 1847-1849 he recognized puerperal fever as a blood poison or septicemia although the bacteriology was not known then. In 1847 the mortality in the obstetrical wards of the Allgemeines Kraukenhaus in Vienna was 9.92 p.c., under Semmelweis the mortality was reduced to 1.27 p.c. in 1849. Holmes was severely criticised by Hodge and Meigs in Philadelphia in 1843. Semmelweis was fiercely attacked by Scanzoni, Carl Braum and others, and five years later retired disgusted to Budapest.

J. Marion Sims made his first contribution to medical literature in 1845 in a paper on hare lip published in the Journal of Dental Surgery by Dr. Harris of Baltimore. Dr. Sims acquired his first success in operations on vesico-vaginal fistula at Montgomery, Alabama, in about 1845-'49, and published his work in American Journal of Medical Sciences in 1852, January number.

From 1849 to 1853 Dr. Sims traveled on account of his health which was so precarious that he did but little work but found himself so much better in New York that he finally located there in 1853.

"The Story of My Life" gives a most graphic account of his struggles to regain health after the strenuous work during the last four or five years

in Montgomery and his successes, failures and disappointments which to a delicate and sensitive nature nearly proved fatal.

To the Editor, Iowa State Medical Journal:

I have just read in the last number (March) of the State Journal an article on "American Medicine" by Dr. Williams, in which occur a number of discrepancies and in the interest of accuracy I think attention should be called to these and correction made.

The Doctor states: "The first medical college was founded in Philadelphia in 1751. Twenty years later New York City established one."

As a matter of fact the first medical college in this country was founded in 1765 and was known as the Medical Department of the College of Philadelphia. Later this school became the Medical Department of the University of Pennsylvania. The Medical Department of King's College, New York was founded in 1767, and not twenty years later as the Doctor states.

A little farther on in his article the Doctor says, in mentioning Oliver Wendell Holmes' discussion of the contagiousness of puerperal fever: "In 1843 O. W. Holmes published his brochure, in which he emphatically made clear, with abundant proof, that puerperal fever was contagious and closely akin to erysipelas, thus by sixty years foreshadowing man's greatest destroyer, the streptococci. Twenty years later Semmelweis, in Germany, confirmed Holmes' findings without giving him credit."

The streptococcus pyogenes was isolated from cases of puerperal septicemia by Pasteur in 1878-79. In 1867 Lister in England had published his paper, "On the Antiseptic Principle in the Practice of Surgery" which paper embodied the results of two years' work with the antiseptic idea, so that "the fight was on" against infection considerably less than sixty years following Holmes' paper.

In the year 1846, Ignaz Philipp Semmelweis, a young Hungarian assistant in the maternity wards of the General Hospital in Vienna was struck by the high incidence of puerperal fever in certain of the maternity wards of that hospital while other wards had very few cases. His investigation of this condition disclosed the fact that the women were infected by medical students who made vaginal examinations with unclean hands. Unfortunately Semmelweis was unable to convince anyone of the soundness of his discovery and after years of work and brooding he eventually lost his mind and died insane. It will be observed that this great work of his followed Holmes' by a matter of about five years instead of twenty.

Again quoting Dr. Williams: "Dr. Guthrie was the first to discover chloroform in 1833 but Sir James Y. Simpson of Edinburgh was the first to use it in surgery."

Chloroform was discovered by three different men working independently in the year 1831. These

men were Von Liebig in Germany; Souberian in France and Samuel Guthrie in this country.

Finally, Dr. Williams states when speaking of Marion Sims and his operation for vesico-vaginal fistula: "In the sixties Dr. Marion Sims of New York City made successful the operation for vesico vaginal fistula."

Sims was not a resident of New York at the time he made his valuable contribution to gynecology but was practicing in Alabama and his paper describing this operation which immediately placed him in the forefront as a surgeon of preeminent skill was published, not in the sixties but in 1852. Shortly after this he moved to New York.

F. R. HOLBROOK,
Des Moines, Iowa.

ADDITIONAL GOVERNMENT HOSPITALS NECESSARY

The lay press with its usual proclivity to criticise what it knows nothing about, has found much fault with the government and with the medical profession because the government patients were not taken care of more promptly and more efficiently. As long as we can remember the American Medical Association and the profession generally have urged Congress to enact laws providing for the co-ordination of health activities under a single head, but was always refused with scant courtesy. Now that the country is in serious need of what we have asked for, for many years, we are subject to more or less criticism. It was impossible for any one to foresee what has happened since 1917 but if the medical profession had been listened to a much better organization would have existed. It may be said to the credit of the government that a great work has been done considering the slowness of Congress to act in providing hospitals and for a much larger personnel in the active public health service. Doctors in sufficient number could be secured if the Congress would provide a retirement allowance. Men of the kind the service need cannot accept the service at the salaries paid, unless some provision for the future is made.

Surgeon-General Cummings states that at present 20,000 cases of sick soldiers are scattered in thirteen different institutions, some of which are unsuitable. How many cases will develop in the future no one knows. It was thought in the beginning that the peak would be reached in five years; the time is now extended to ten years. If the best results are to be reached, general and special hospitals must be provided, properly equipped with the means for the care and treatment of the disabled soldiers. The appropriation of \$10,000,000 will be none too much. If the

public would give some of the attention to the hospital provisions that they are giving to soldiers' bonuses, much more real good could be accomplished. As an instance of the pernicious criticism of the newspapers, may be cited Ashbury Hospital in Minneapolis which was recently taken over by the government. The *Journal-Lancet* states that "Within ten days from its opening and the time Dr. Bracken and Dr. Wiperman were placed in charge, a loud complaint of negligence which ran through the newspapers and finally was taken in hand by the American Legion, who after hearing the reports of the soldiers in Ashbury Hospital openly announced and publicly published the fact that there was no warrant for any complaint whatsoever against Ashbury and the present management."

THE CHIROPRACTOR'S BILL

The Iowa Homeopathic Journal, not unfriendly to the legislation legalizing the chiropractors, finds some objection to the bill as it now stands. The editorial in the March number is a most excellent exposition of the subject and presents the opinion of the editor in a calm and judicial manner. It is difficult to discuss such legislation in a temperate spirit when we feel that the health and safety of the public is placed on a commercial basis. At this time, so near the close of a period which tested the value of health and sanitary measures, it is strange that a body of men could be elected by intelligent people who could enact legislation which would set back the progress of medical science to the middle ages.

The editor of the Iowa Homeopathic Journal writes:

The two most objectionable features of the present bill are the single board, and the fact that that board would not be paid by the state but on the other hand would pay its own expenses. The fact that the chiropractors wanted an independent board and were willing to operate it free of expense to the state will make an unfavorable impression on the laity of Iowa. This will be true notwithstanding the fact that the leading chiropractors of the state realize that under present conditions Iowa was being made the dumping ground of all their fellow chiropractors who were unfit to qualify in the states which have passed laws regulating the practice of chiropractors. The independent board will be put upon its mettle from the beginning, and their action towards the undesirables who are injuring their school may in great measure overcome the prejudices of the laity.

And furthermore, if the board shows that it has the desire and the ability to raise the standard of the chiropractors of Iowa, the school will be in good condition at the next session of the Iowa legislature

to ask the state to pay the expenses of their board so that they will not be regarded as a class by themselves receiving favors not granted other schools of medicine.

Aside from the independent board paying its own expenses the **other objectionable feature** of the bill is the time given for preparation for their diplomas, viz., three terms of six months each. The leading medical schools of the U. S. require more time than that to teach the fundamentals which the chiropractors include in their bill, which fundamentals we may call the science of medicine. In addition, these same leading schools give more than eighteen months to the art of medicine. It does not seem possible that the chiropractors can do thorough, efficient work in the time their bill requires.

The question naturally arises, why did a body of such men as compose the present legislature of Iowa pass by a vote of eighty-one to sixteen a bill which does not protect the people of Iowa? There were three conditions which brought about the result. (First)—The chiropractors were united and in earnest. They knew what they wanted, and why they wanted it. It was to them a struggle for continued respectable existence. Their organization was excellent and the machinery in good working order. The above were the greatest causes of their success. (Second)—The opposition in the legislature was not well organized, felt that it had always succeeded in killing similar bills and that they had the support of the people in their effort to protect the people. (Third)—The general public were not interested, they were ignorant of the intent of the bill and with the exception of a few personal friends of the chiropractors who were asked to do so, the people did not ask their representative to vote pro or con on the bill which has become a law.

This indifference of the people to all medical legislation is one of the saddest features about such legislation. The people as a body care less about laws which protect the health and lives of their families than about any other laws which have been put upon our books.

THE FIRST HOSPITAL

A. G. Field, M.D., Des Moines

In September, 1868, a carload of emigrants landed in East Des Moines and took such shelter as they could find. Nearly one-half of them were sick: some with typhoid fever. The city was illy prepared to care for them, although the need for a place more accessible than the poor farm several miles in the country was keenly felt; and I think a voluminous petition asking for such was before the council at that time.

Dr. A. G. Field, city physician, called a meeting of citizens to consider the situation. It was decided at that meeting to ask for voluntary donations and hire a building and fit it up for the present emergency. The amount of donations exceeded all expectations.

A two-story brick building on the east bank of the Des Moines river was immediately secured and a number of good people, men and women, volunteered to help fit it up. By working all night and all next day (which was Sunday) the building was cleaned and scrubbed and white-washed: so, that by noon on Monday stoves and furnishings were installed and as many of the worst cases of the sick as could be provided for moved into it. A man was hired to act as nurse and interpreter. All other help was gratuitous. The donations, it was thought, turned over to the city council would be a nucleus for further provisions; and in such expectancy, a site for a building was selected. But the council still hesitated.

In the meantime, two of the emigrants died. All the others were so far convalescent as to be safely moved; and at the end of a month, all furnishings and patients were turned over to the county and the doors of the first hospital closed.

Among those most appreciative of the necessity for better provisions for the sick was Mr. C. Beck, the coal dealer, and Father Brazil of the Catholic church. The altitude and location of the site previously selected appealed strongly to Father Brazil. It was then overgrown with tall, wild grass, trees, and native shrubbery, in the midst of which was a small Episcopal church in care of the Rev. Dr. Pete. Father Brazil soon after bought the ground; and in the course of time the first initial building of Mercy Hospital was erected.

Now, standing upon the threshold of the great imposing edifices where once was that little church on the shady hill top, I see within a clinical laboratory equipped with the most far-reaching chemico-mechanical provisions and devices for scientific diagnosis; a corps of justly eminent physicians and surgeons and nurses at their post in tender and loving discharge of duty. All these, the fruitage of that spirit planted in human hearts nineteen hundred years ago.

Iowa may now stand as a refuge for chiropractors. We are led to make the observation from noting four news items furnished by the Federation Bulletin.

Chiropractors Convicted—It is reported that several chiropractors in California have recently been convicted of illegal practice, as follows: Robert Birch, Los Angeles, pleaded guilty, November 17, 1920, and was fined \$100; H. A. Brown, Richmond, was found guilty and fined \$100; Ben Bolt, Los Angeles, was found guilty and fined \$300. (On refusal to pay the fine he was committed to jail.)

Chiropractors Found Guilty—W. E. McClelland, chiropractor of Eureka, California, is reported as having been found guilty of the charge of practicing medicine without a license. In accordance with an agreement between the prosecution and the defense, a second charge against McClelland was dismissed on the promise of the defendant that he would no longer attempt to practice in the county.

Malpractice of Chiropractors—Two definite instances showing the menace from chiropractors due to their inferior training have been reported from California. In one instance a chiropractor was treating a child of "a sprain of the arm" which a roentgenogram showed to be a fracture of both bones of the forearm. In the second instance, a tuberculous patient under treatment by a chiropractor grew progressively worse and a roentgenogram showed a right-sided pleural effusion.

Osteopath Convicted of Medical Practice Violation—It is reported that W. A. Sawyer, an osteopath of Twin Falls, Idaho, was recently convicted in the Twin Falls District Court of the charge of violating the state medical practice act by performing a major surgical operation. It was contended by the attorneys for the defense that W. A. Sawyer was a graduate of a medical school, although this school was not on the approved list of the state, and that at that school he had taken the regular courses in osteopathy, including surgery. This testimony, however, was ruled out by the trial judge. The state maintained that an osteopath is licensed to practice osteopathy, and not to prescribe medicines or perform surgical operations. The prosecution was instituted by the state department of law enforcement on the recommendation of the attorney-general.

We find two other items of news of less interest but worth noting.

Columbia University Plans New Medical School—According to announcement made by W. Barclay Parsons, chairman of the board of trustees of Columbia University, plans have been formulated for raising \$10,000,000 to build and endow a new medical school in connection with Columbia University, to supplement the present College of Physicians and Surgeons.

Reconstruction of Johns Hopkins Hospital—Plans have been completed by the trustees of Johns Hopkins Hospital for the reconstruction of the hospital group, which will involve an investment of approximately \$11,500,000, including \$6,750,000 as a permanent endowment fund. The first unit will be started next summer by the erection of a new pathologic building, costing \$600,000, to replace the structure destroyed by fire last winter.

The Oregon legislature has passed a bill requiring women as well as men applying for marriage licenses to be examined as to mental and physical fitness. A law requiring examination of men has been in force for some time in Oregon.

DR. CONAN DOYLE

Dr. Doyle was born in Edinburgh on May 22, 1859, and was graduated from Edinburgh University in 1881 as an M.D. A year later, after a voyage to South Africa, he began practicing in Southsea, but the practice of medicine to him was more of a make-

shift than anything else, despite the elaborate preparation he had made for it at Edinburgh and in Germany. All through his student days he devoted his leisure hours to writing, and in one of the professors at Edinburgh, Dr. Joseph Bell, a man of astonishing analytical and deductive powers, he found the original from whom Sherlock Holmes was subsequently drawn.

APPOINTMENT OF DR. OSCAR KLOTZ

Announcement has been made of the appointment of Dr. Oscar Klotz, professor of pathology in the University of Pittsburgh Medical School, as representative of the international health board of the Rockefeller Foundation for medical research work and education in Sao Paulo, Brazil, serving as director of a pathologic institute.

IOWA STATE UNIVERSITY NEWS

Don M. Griswold, Iowa City

Miss Adelaidé Perry, supervisor of instruction in the Nurses Training School at the University Hospital, has just returned from a six weeks visit to various points on the Pacific Coast.

Dr. Henry Albert, professor of bacteriology and pathology, is suffering from a paralysis of the left vocal cord, necessitating his absence from lecture work.

The University Hospital have had imported from Honduras a log of Balsa wood. This wood is only one-half the weight of cork and is very useful for building lifts on shoes for orthopedic cases.

Miss Mary C. Harrer, superintendent of nurses at the University Hospital, is on a leave of absence in Colorado.

Dr. Arthur Steindler, professor of orthopedic surgery recently published a book on "Surgery of the Upper Extremities." This book is receiving very favorable comment by the orthopedic surgeons and book reviewers.

This clinic is doing a large and increasing amount of upper extremity work and is growing to a size that gives it national prominence.

Dr. Byfield, professor of pediatrics, has been asked to deliver the "Oration of Medicine" at the meeting of the Illinois State Medical Society which meets at Springfield, May 15, 1921.

The Central Interurban Medical Club will meet at the University Hospital, April 23. This club is made up of members of the staff of the departments of internal medicine of Rush Medical College, University of Minnesota, Washington University, the post-graduate teachers of the Mayo Foundation and the University of Iowa.

The meeting will be quite informal and the subjects discussed will be the presentation of the subject of internal medicine to under-graduate and post-graduate students.

Recent visitors at the clinics at the Children's Hospital have been Dr. Orr of Lincoln, Nebraska, Dr. Henderson of the Mayo Clinic and Dr. Gaenslen of Milwaukee. The men are all interested in orthopedic surgery and have been attracted to the hospital because of the large amount of work on the upper extremities done here.

Miss A. Everitt has recently been appointed supervisor of nurses of the Children's Hospital.

Dr. Mary Buehl of the department of internal medicine has been appointed instructor in biochemistry at Johns Hopkins University.

Dr. W. G. Walker has been appointed lecturer in internal medicine.

Drs. G. Hansman and R. L. Fenlon of the hospital staff have resigned to take effect July 1.

Dr. Verne Graber has been appointed clinical assistant in the department of internal medicine.

Dr. Harry Doll has been appointed hospital chemist.

BOSTON MEETING AMERICAN MEDICAL ASSOCIATION

June 6 to 10, 1921

RAILROAD RATES will be one and one-half fare for round trip, using same road going and returning and those wishing to avail themselves of the special rate should write at once to Dr. A. C. Craig, 535 N. Dearborn street, Chicago, for identification certificate.

MEDICAL VACATION TOURS—Those who wish to avail themselves of any of these should write at once to Harlan-Spears Tours, 20 West Jackson Blvd., Chicago.

HOTELS—Those expecting to take the trip, will save time by securing reservations at once by writing to Dr. John T. Bottomly, chairman hotel committee, A. M. A., 8 The Fenwall, Boston, Massachusetts, and, state the kind of reservations desired, first, second or third class or name the hotel preferred.

ITINERARY—There will be special Pullman trains between Chicago and Boston June 4, 5, and 6 over the New York Central and those wishing this route should write Mr. O. W. Crasper, 1220 La Salle, Chicago, or through Pullman over the Pennsylvania line, write Mr. A. H. Shaw, 846 Insurance Exchange building, Chicago, Illinois.

For further information address J. W. Cokenower, M.D., Des Moines, Iowa.

SOCIETY PROCEEDINGS

Audubon County Medical Society

The annual meeting of the Audubon County Medical Society was held in the office of Dr. R. A. Jacobson, March 10, 1921. Following the program came the election of officers resulting in Dr. R. A. Jacobson, president and Dr. Childs of Audubon, secretary and treasurer.

Fremont County Medical Society

At the meeting of the Fremont County Medical Society held at Hamburg, April 27, the following officers were elected: President, Wm. Kerr, M.D., Randolph; vice-president, R. C. Danley, M.D., Hamburg; secretary-treasurer, A. E. Wanamaker, M.D., Hamburg; delegate, Harold D. Cole, M.D., Thurman; alternate, Roy D. Sykes, M.D., Hamburg.

Nearly 500 people heard Drs. Palmer Findley and Clyde Roeder, both of Omaha, give illustrated lectures on the Cancer Problem at the Colonial Theatre, the lectures beginning at 1:30 p. m. and continuing two hours. These were followed by papers on the same subject using slides and read before the society. There were twelve Fremont county physicians present and eight from adjoining counties. At 5:00 o'clock a luncheon was served at the Hotel Loyal to forty physicians, their wives and guests.

Members present: W. L. Bogan, M.D., Hamburg; Wade Sperry, M.D., Hamburg; R. W. Sykes, M.D., Hamburg; R. E. Danley, M.D., Hamburg; A. E. Wanamaker, M.D., Hamburg; E. E. Richards, M.D., Hamburg; E. T. Dalby, M.D., Hamburg; Harold D. Cole, M.D., Thurman; B. B. Miller, M.D., Tabor; T. C. Harris, M.D., Tabor; H. L. Housel, M.D., Tabor; Wm. Kerr, M.D., Randolph.

Guests present: Palmer Findley, M.D., Omaha, Nebraska; Clyde Roeder, M.D., Omaha, Nebraska; Austin McMichael, M.D., Rock Port, Missouri; G. A. Reutter, M.D., Blanchard; Edw. Luke, M.D., Coin; B. S. Barnes, M.D., Shenandoah; J. F. Aldrich, M.D., Shenandoah; M. O. Brush, M.D., Shenandoah.

Adjourned to meet at Randolph June 15.

A. E. Wanamaker.

Harrison County Medical Society

The Harrison County Medical Society met in the I. O. O. F. hall in Logan Tuesday, March 22. Doctors Sachs, Jones and Duncan of Omaha were present. The society decided to continue the free medical clinics under the Red Cross public health program. The officers plan a summer picnic meeting for the doctors and their wives. Officers of the society were elected as follows: Dr. F. H. Hanson, Magnolia, president; Dr. Lucy M. Wood, Logan, vice-president; Dr. H. N. Anderson, Woodbine, secretary-treasurer.

Henry County Medical Society

Through the courtesy of Dr. M. C. Mackin, superintendent of the State Hospital at Mount Pleasant,

the Henry County Medical Society held their annual meeting April 28 at the hospital.

Dr. and Mrs. Mackin provided an excellent luncheon and with the assistance of his staff very pleasantly entertained the society. A smoker was also given. Only those who know Dr. and Mrs. Mackin and recall their pleasant, genial, social disposition will realize how thoroughly the occasion was enjoyed by the doctors and dentists fortunate enough to be present.

Dr. John F. Herrick of Ottumwa and Dr. Geo. B. Crow of Burlington and Dr. C. E. Cook of New London supplied the food for thought in three exceptionally good papers.

Dr. Herrick's paper on the Autonomic Nervous System, but more specifically on the Ductless Glands, was a clear and strong presentation of their normal function and some of the known resulting ailments produced by their hyper secretory activity, and also on the contrary by their diminished activity.

The subject was elaborated in his usual masterly manner and suggested a possible solution for many heretofore vexing problems in various diseases and abnormal conditions both physical and mental.

The paper was attentively received, a thought stimulator, helpful, interesting, important and appreciative.

Dr. Crow's paper on Acute Nephritis was well received. It pointed out the great importance of frequent urinary examinations in and following infection diseases, and especially scarletina, in children, and the effectiveness of rest in bed, dietetic, hygienic and in some cases depletory treatment. Illustrative cases were cited.

Dr. C. E. Cook of New London, read the history of ten or twelve cases of various disturbance to health resulting from focal infection in the teeth and antrum. Radiographs illustrating each of these cases were exhibited and considerable interest manifested in the subject, and the importance of not overlooking focal infection in our cases was made emphatic.

The meeting was well attended and made a good impression, created a better feeling, renewed interest in the society and a desire for another meeting to be held at the club house at New London some time in July, was expressed.

The following officers were elected: President, Dr. O. A. Geeseka, Mt. Pleasant; vice-president, Dr. F. C. Mehler, New London; secretary-treasurer, Dr. C. E. Cook, New London; delegate to the State Society, Dr. M. C. Mackin, Mt. Pleasant; alternate, Dr. J. T. McConnaughey, Winfield; board of censors, Drs. O. A. Geeseka, C. W. Gardner, J. W. Laird.

The new Henry County Soldiers' and Sailors' Memorial Hospital is making rapid progress. The builders have completed the walls to the second story and expect to have the building ready for occupation by October 1, 1921.

O. A. Geeseka, Sec'y.

Scott County Medical Society

A regular meeting of the Scott County Medical Society was held Tuesday evening, April 5, 1921, at the Davenport Chamber of Commerce.

Dinner served at 6:30 P. M. Meeting called to order at 7:30 P. M.

Program—Resolution on society and lodge practice.

Mr. Passino, finger print expert, gave a talk on finger prints and demonstrations. Physicians elected to membership at the March meeting: Dr. C. C. Johnson, LeClaire, Iowa.

At the regular meeting of the society held March 1, 1921, the members present voted to hold future meetings of the society in some central place. The Chamber of Commerce has been selected for our future meetings. Dinners will be served to those wishing same at 6:30 P. M. and when possible, meetings will be called to order at 7:30 P. M.

Resolution on Society and Lodge Practice

Chapter Eight—Principles of Medical Ethics—Sections 1 and 2.

"No member of this society shall engage in lodge or society practice. No member of this society shall meet in council, assist, or co-operate professionally with any physician who is engaged in lodge or society type of practice: nor shall a member of this society meet in council, assist or cooperate professionally with any physician who is engaged in this type of practice."

Resolution—That the time limit of those in the society already engaged in lodge and society practice shall register with the secretary immediately upon the adoption of this amendment and that they shall later notify the secretary when they have quit such practice.

That when all members shall have severed their connection with lodge or society type of practice or at the expiration of the time limit herein stated, this resolution shall no longer form part of section 2, chapter eight of the by-laws.

Tama County Medical Society

The Tama County Medical Society met at Hotel Toledo, April 28, at six-thirty p. m., at which time twenty-eight members and their wives enjoyed a splendid banquet. The regular business session followed with election of officers for the ensuing year: Dr. J. A. Pinkerton, Traer, was elected president; Dr. A. A. Crabbe, Traer, secretary-treasurer, and Dr. M. L. Allen, alternate delegate. A very interesting clinic was held by Dr. Bried of Tuberculosis Sanitarium, showing a number of interesting tuberculosis cases. Dr. A. E. Kepford, Des Moines, gave an interesting talk on the Social Aspects of Tuberculosis. The retiring president, Dr. M. L. Allen, gave an appreciative talk on The Evils of Health Insurance.

The meeting was a success from both a social and scientific view, and was enjoyed by all.

A. A. Pace.

Taylor County Medical Society

Taylor County Medical Society met at Gravity, Iowa, March 15, 1921, with the following program: "Focal Infection of Teeth," Dr. D. B. Sollis, Bedford; "Valvular Heart Disease," Dr. J. Terrill, Bedford; "Acute Arthritis," Dr. C. W. McCollm, New Market; "Some Acute Lung Troubles in Children," Dr. Enos Mitchell, Grand River.

Dr. D. W. Reed, Sec'y-Treas.

Union County Medical Society

A called meeting of the Union County Medical Society was held in Creston, March 24 at the Greater Community Hospital assembly room.

It was recommended that the Union County Medical Society proceed to act in formulating a plan and that five members from the society be appointed by the president to confer with the board of regents in regard to a plan covering medical and surgical services of the Greater Community Hospital. This committee was appointed as follows:

Dr. T. V. Golden, Dr. W. K. Keith, Dr. Cleve Coakley and Dr. F. E. Sampson.

A committee composed of Dr. Ayres, chairman, Dr. Kyle and Dr. C. C. Rambo was appointed to represent the Union County Medical Society membership in the Greater Community Association.

It was decided that the county society would hereafter hold a meeting every month and that every other meeting would be in the nature of a clinic. These meetings and clinics will be conducted by three members of the medical society appointed by the president. Their duty will be to arrange and conduct the meeting or clinic, such as it may be.

The committee appointed for this purpose for the first meeting is composed of Dr. H. M. Stanley, Dr. A. S. Beatty and Dr. Fred Watts.

This meeting of the Union County Medical Society means one more and very important step towards the unification of community forces for effective community work.

Among the out of town doctors present yesterday were Dr. Ed Ayres of Lorimor, Dr. A. S. Kyle of Shannon City and Dr. C. C. Rambo of Kent.

Iowa Clinical Medical Society

The Iowa Clinical Medical Society met at Grinnell, Iowa, on February 26. The morning clinic was held at the Grinnell Community Hospital. The following program was presented. Demonstration of the Results of Radium Therapy in Epithelioma and Lupus Vulgaris, Dr. P. E. Somers; A Case of Syphilitic Meningo-Myelitis, Dr. E. E. Harris; A Case of Paroxysmal Tachycardia, Dr. L. E. Hopkins; A Case of Primary Mastoiditis in a Diabetic, Dr. C. H. Lauder; Two Cases of Endocrine Dyscrasia, and Reports of Two Cases with Autopsy Findings, Dr. E. S. Evans; A Case of Congenital Brain Defect, Drs. Harris and Lauder; Report of a Case of Puerperal Septicemia, with Unusual Autopsy Findings, Dr. O. F. Parish.

After lunch the society discussed the cases of the morning. Everyone was well pleased with the work of the Grinnell members, and with the very interesting program which they presented.

AMERICAN MEDICAL EDITORS' ASSOCIATION

The fifty-second annual meeting of the American Medical Editors' Association will be held at the Hotel Lenox, Boston, Massachusetts on Monday and Tuesday, June 6 and 7, under the presidency of Dr. H. S. Baketel, editor of the Medical Times.

A novel feature of our literary program will be introduced this year in the shape of a symposia, which will be discussed by various members. The subjects will be: "Group Practice and the Diagnostic Clinic;" "What Should be the Attitude of the Profession Toward Health Centers;" "The Correlation Between Editorial, Advertising and Subscription Work."

Every doctor, even remotely interested in medical journalism, will find it to his advantage to attend, and is most cordially invited.

PERSONAL MENTION

Dr. M. R. Hammer of Newton, Iowa, has moved to Manchester, Tennessee. However he retains his membership in the Jasper County Medical Society, also Iowa State.

Drs. J. D. Dunshee and A. L. Nielsen announce Dr. Nielsen's location in Harlan and their association for the practice of medicine.

CORRECTION

Near the bottom of the page 89, March, 1921 number, Dr. Schuman's paper, appears this statement: Two years later Dr. Stewart wrote as follows: On December 4, 1917, following the examination, etc. The date should have been December 4, 1919.

MARRIAGES

Dr. Louis Franklin Talley and Miss Meta Lillian Watson, March 27, 1921, Marshalltown, Iowa.

OBITUARY

Dr. C. H. Hermann, Sr., of Middle Amana, died at his home March 6, 1921. Dr. Hermann was born at Ebenezer near Buffalo, New York, October 5, 1849. Came to Iowa in April, 1864. Dr. C. H. Hermann, Jr., succeeds his father at Middle Amana.

Dr. M. W. Thornburg of Redfield died at Mercy Hospital, March 14, following an operation for gallstones. Dr. Thornburg was educated at the State College, Ames, and received his medical degree at Northwestern University Medical School.

Dr. Thornburg was sixty-one years of age, and had practiced medicine at Redfield for thirty-one years. When the editor recalls the fact that Dr. Thornburg was a student in one of his classes at the State College, it conveys an impression of the passage of time.



DR. H. C. JUNGBLUT
Tripoli, Iowa

Biographical sketch of Dr. Jungblut in January Number of the Journal, Page 31.

Dr. C. C. Lambert, a graduate of Jefferson Medical College, died suddenly at Clinton, March 5, 1921.

Dr. Henry M. Farr of Mt. Pleasant died at his home on West Monroe street, March 3, 1921. Dr. Farr was born September 2, 1828 at Huntington, Vermont; graduated from Alleghany College in 1852, and from the University of Michigan Medical School 1855, and came to Iowa the same year. At the breaking out of the Civil War, he enlisted in the 25th Iowa Infantry with the rank of captain and later was promoted to the rank of major.

DOCTOR LARNED VAN PATTEN ALLEN

March 31, 1921

IN MEMORIAM

From time to time it becomes the sad duty of the Scott County Medical Society to take cognizance of the loss by death of some member.

Again such an occasion has arisen, but never before under circumstances so calculated to arouse sentiments of grief and pity as now when we are called on to mourn the decease of our brother, Doctor Larned Van Patten Allen. The personal

charm, the diverse talents, the professional ability so marked in comparison with the youth of their possessor, all gave promise of a career rich in values to himself, his relatives and associates, and to the general community.

We lament his loss to us, and the untimely termination of a life of the highest usefulness.

Struck down by contagion while in the act of rendering service in his capacity as physician Doctor Allen is as surely enrolled among those dead on the field of honor as though fallen in battle, and in his passing leaves for our comfort and contemplation the high spectacle of duty nobly accomplished.

This tribute we inscribe on the minutes of our society, and tender with all sympathy and respect to his bereaved parents.

E. O. FICKE, M.D.,

President.

ROBT. E. JAMESON, M.D.,

Secretary.

OBSEQUIES, DR. W. MARCH WHITE, SIOUX CITY

The funeral of the late Dr. W. March White, Iowa State University, 1912, who was killed in action at Battle of Argonne-Muese, November 4, 1918, was held at Sioux City, Sunday, April 24.

It was the largest as well as the most impressive funeral ever held in Sioux City and a most fitting tribute to the memory of our only physician to lose his life in the late war.

Every physician and dentist who was in the service, about forty in number, composed the guard of honor, followed by eight overseas nurses in uniform. The Legion of Honor, Woodmen of the World, Masonic and other orders made a procession of 5,000 and more than twice that number attended the service at Graceland cemetery, which was conducted by the Masonic lodge.

Dr. White was twenty-nine years of age at the time of his death. He was a member of the Woodbury County, the Sioux Valley, Iowa State and American Medical Societies.

Dr. Victor Brown, Sec'y.

BOOK REVIEWS

THE ENDOCRINES

By Samuel Wyllis Bandler, M.D., F.A.C.S., Professor of Gynecology in the New York Post-Graduate School and Hospital. Octavo of 486 Pages. W. B. Saunders Company, 1920. Cloth, \$7 Net.

Dr. Bandler has given much study to the general subject of internal secretions and in a work on gynecology published a few years ago, dwelt particularly on the influence of internal secretions in certain diseases of women which, while the theories were yet tentative, threw a new light on some obscure condi-

tions which might be improved by referring to a balance in the endocrines. Studies since that time have tended in support of Dr. Bandler's contentions.

Dr. Bandler now writes a book on a new philosophy of disease in which psychology rests largely on the state of the endocrines. We can easily imagine the feelings of the metaphysical school of philosophers represented by Sir William Hamilton on reading a book which holds that certain psychic manifestations are related to the internal secretions.

The first chapter relates to environment and heredity. The author considers the normal child, the man and the woman, and proceeds to consider the abnormal, the effect of the endocrine unbalance. The effect of environment and heredity are treated in the usual manner but when we reach the abnormal a different interpretation is given from what we are accustomed to consider. The physician should inquire into the condition of the organs of internal secretion as a means of considering a rational treatment.

The author in chapter three introduces the subject of endocrines in the following language: "The influence and action of the endocrine glands are evidenced by somatic, mental and psychic changes." If we consider the activity of the hypophysis gland and the thyroid gland in the development of the growing child we may understand why the individual develops as he does, and if we can reason out what the ductless glands have done to that individual after puberty, we may understand why so many changes have occurred in him. The influence of the testis and ovaries on the changes in the adrenals, pineal and hypophysis are considered in relation to the peculiarities and characteristics of the male and female. Certain abnormalities as dysmenorrhea, menorrhoea, and amenorrhoea may be the somatic or psychic evidences of endocrine abnormality.

We cannot enter further into the discussion of this phase of the subject. The author now takes up the discussion in chapter four, each of the glands of internal secretion, and follows in chapter five, and following chapters, the endocrines in gynecology and other conditions.

The chapters on the endocrine relations to the nervous system is a subject of intense interest, the instincts, the emotions, mental and nervous defects, the neuroses and psychoses, phobias, the autonomic nervous system. This is a group of subjects that have until recently been beyond the understanding of the physician and psychologist, now, thanks to research are placed on a basis for rational study with a hope for the future. In further elucidation of the subject the author takes up a study of the balance between the endocrines, and each individual endocrine. This is from its nature a difficult philosophic discussion but of great importance in reaching a basis for rational therapeutic measures.

Under the head of therapeutic suggestions concerning endocrines this statement is made in introduction; "the human body is managed by the endo-

crine glands of the body." Now when we have worked out the problem of the balance of endocrines, we are prepared to make the therapeutic application. As an aid in this direction a detailed account of the history and symptoms is presented, supplemented by a series of clinics.

We suggest to the reader who is interested in this subject a careful reading of this interesting book.

THE STORY OF THE AMERICAN RED CROSS IN ITALY

By Charles M. Brakewell. The Macmillan Company, New York, 1920.

The activities of the Red Cross in the Great War will be a subject of interest to the end of time. We are introduced to the reading of this book by the statement, "The purpose of this book is not to give a detailed statistical account of Red Cross activities in Italy, but rather to tell the American people who contributed so generously to the Red Cross funds the simple tale of what their dollars did in Italy."

The story begins on the fifth day of May, 1915, and we are carried through Italy's entrance into the war, marking interesting facts, incidents, and persons until in the summer of 1917 when the American Red Cross sent a commission to Italy under George F. Baker, Sr. The story is an interesting one with many illustrations. We are carried from city to city and we have revealed to us the feelings, the trials, and the sorrows of these interesting people, and the needs for help from outside. Italy had been the battlefield for centuries before civilized methods of caring for the distressed had been organized. To one who has read the history of the wars between the different states of Italy and with foreign nations since the building of Rome must be moved by a spirit of thankfulness that organized means of relief have been established for mitigating the distress of war. From the beginning to the end of the book interest newer flags, and our affection for the Red Cross and our willingness to give freely to this great organization increases. Our regret is that we did not give more.

SHORT TALKS ON PERSONAL AND COMMUNITY HEALTH

By Louis Lehrfeld, A.M., M.D., Agent for the Prevention of Disease, Department of Public Health, Philadelphia.

This book has been compiled with a view to teaching the public some of the things it should know about the prevention of disease and ways to avoid sickness. It is the idea of the author, that perhaps the greatest drawback in the problem of dealing with the preventable diseases, is that much of the opposition encountered by health officials, is the ignorance of people in general concerning these matters. Education of the public has been tried through various agencies, but the great difficulty seems to be that many of those who should be taught, are illiterate,

at least as regards the English language and have also a disinclination to adopt new ways of living.

The author suggests that much may be accomplished by teaching directed toward the younger part of our population whose minds are more open to the reception of new ideas, and it is with this in mind that he has prepared the volume under consideration.

The text treats of preventable diseases and how to avoid them, and considers several items under the head of spring and summer subjects, subjects for the holidays and miscellaneous topics. Foods and water are next discussed followed by talks about infants and children, concluding the work with a chapter on first aid to the injured.

The subject matter is quite readable, using plain, simple language, and avoids tedious statistics and charts, which might deter many from reading the text. The book might well be called a health primer, and should be of more benefit to the lay public than many more pretentious works.

H. R. Reynolds,
Surgeon U. S. P. H. S.

PRACTICAL MASSAGE AND CORRECTIVE EXERCISE WITH APPLIED ANATOMY

By Hartig Nissen, Director and Instructor in Numerous Schools and Training Schools. Fourth Revised Edition with 98 Original Illustrations, Including Several Full-Page Half-Tone Plates. F. A. Davis Company, Philadelphia, 1920. Price \$2 Net.

The value of massage is fully recognized by the medical profession but little practiced by the physician himself from lack of knowledge of its application, and more particularly because of lack of time. As a matter of fact, massage is a branch of treatment which cannot be made effective without special training. It is, however, a branch which the physician should be familiar with, and thus be in a position to direct its application in suitable cases. This book will serve as a valuable aid in his work.

MEDICAL CLINICS OF NORTH AMERICA,

Volume 3, Number 4 (St. Louis Number), Octavo of 280 Pages, 30 Illustrations. W. B. Saunders Company 1920. Published Bi-Monthly. Price Per Clinic Year, Paper \$12, Cloth \$16.

We have before us a volume of clinics from leaders in internal medicine of St. Louis. First: Focal infection and arthritis by Dr. George Dock followed by a demonstration of four cases of endocrine amenorrhea by Dr. William Engelbach of St. Johns Hospital.

The relation of the endocrines to gynecology is attracting so much attention of late that we read this paper with much interest, because of the analytic detail with which the paper is presented. Then we have a paper on essentials in neurologic diagnosis by Dr. W. W. Graves of St. Louis City Hospital, which

presents certain principle facts in diagnosis that should be considered in modern methods of examination.

The interest attached to severe diarrheas in infancy is presented by Dr. McKine Marriott of St. Louis Children's Hospital. Neuropsychic Reactions in Disturbances of Ovarian Function is presented in an interesting clinic by Dr. F. M. Barrees, Jr. Supplementing the paper by Dr. Engelbach is a discussion on the basal metabolic rate in endocrine disturbance by Dr. John L. Tierney of St. John's Hospital. There are other subjects presented of interest, subjects better understood but having less academic value to the practitioner, but of more practical relation to every day work. We welcome this St. Louis contribution.

THE SURGICAL CLINICS OF CHICAGO

October, 1920, Volume IX, Number 5, with 46 Illustrations. Published Bi-Monthly. W. B. Saunders Company. Price Per Year \$12.00.

We recognize in this number names which have been familiar in Chicago surgery for many years. The first, Drs. E. Wyllys, Edmund Andrews and Dr. Charles L. Mix at St. Luke's Hospital, "Dumping Stomach." The patulous pylorus, the large splashing stomach for which a gastro-enterostomy had been made for drainage, and failure, now comes a pylorotomy and a "simple reverse gastroenterostomy."

Dr. David C. Straus, Cook County Hospital, Perinephritis Abscess—subcapsular nephrectomy: Clinic Drs. A. D. Bevan and L. C. Gatewood at Presbyterian Hospital.

Clinic of Dr. Kellogg Speed, Cook County Hospital; Dr. A. J. Ochsner, Augustana Hospital; Dr. D. N. Eisendrath at Michael Reese Hospital on his favorite subject—the kidney.

Dr. Allen B. Kanaval at Wesley Hospital, eye and ear clinics; Dr. Richard J. Tinonen at Mercy Hospital and Dr. George E. Shambaugh at Presbyterian Hospital.

We are not able to refer specifically to individual clinics but note the special interest of this number.

MATERNITAS

A Book Concerning the Care of the Prospective Mother and Her Child. By Charles E. Paddock, M.D., Professor of Obstetrics, Chicago Post-Graduate Medical School; Assistant Clinical Professor of Obstetrics Rush Medical College; Attending Obstetrician St. Luke's Hospital. Cloyd J. Heald & Company, 304 South Dearborn St., Chicago.

This book of 210 pages is intended for the instruction of the prospective mother, not as a manual for the physician, and may with great advantage be placed in her hands. It will be recalled that at our last annual

meeting, the retiring president in his address called attention to the dangers of race degeneration from neglect of the prospective mother, the warning is emphasized in this book. The book is written in an attractive style and begins with a chapter on instruction as to the duty of the mother to the daughter in preparing her for the functions of maternity. Then follow chapters as to facts about pregnancy and the hygiene of pregnancy, including dress, exercise and other matters well known to the physician, but often disregarded. Two chapters relate to the preparation for confinement and convalescence. These chapters are illustrated as to suitable dress, corsets, binders, also as to the preparation of the lying-in room, the care of the breasts, nursing, and other related matters. The second part of the book is devoted to the baby with the thought to the finest development; the baby's food, disease and injuries.

The physician who has the interests of his maternity cases in mind and a desire to lend his aid to the mother and child of this generation and the future and who cannot give constant personal attention to their welfare will render a material service by placing this book in her hands. We would urge the physician and obstetrician to read this book, the contents will suggest to him the good he may do with it.

PRACTICAL PREVENTIVE MEDICINE

By Mark F. Boyd, M.D., C.P.H., Professor of Bacteriology and Preventive Medicine in the Medical Department of the University of Texas. Octavo Volume of 352 Pages with 135 Illustrations. Philadelphia and London. W. B. Saunders Company, 1920. Cloth, \$4.00 Net.

Dr. Boyd names five groups of diseases which are warrantably classed as preventable. The first three are those commonly so considered; diseases produced by invasion of the body by micro-organisms; diseases resulting from faulty or deficient diet, and classes resulting from unhygienic or insanitary conditions of employment. The fourth group, diseases arising from the puerperal state, and the fifth, those transmitted from parent to offspring, are as justly entitled to be considered as preventable as are the others, yet are unlikely to be so thought of, unless the attention is particularly called to them. In fact, it is the opinion of the reviewer that these latter groups are to be considered as equally important with the first three, a view somewhat substantiated by the increased attention of late years by obstetricians to the causes of morbidity and mortality in cases occurring in their special line of practice.

The author, in his introduction, calls attention to the direct and indirect economic losses, both general and individual, caused by preventable diseases, which added to the more sentimental and humanitarian considerations which lie at the root of all efforts either

(Continued on Advertising Page xvi)

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BOOK REVIEWS

(Continued from Page 188)

to combat or to prevent disease, presents a strong plea for greater interest in this branch of the practice of medicine.

Dr. Boyd discusses the reasons for the continued presence of these diseases when their nature is so well known, believing the chief difficulties to lie in the "lack of ways and means for placing effective control measures in operation." He considers what the result of continued application of adequate efforts would be, and outlines an interesting prophesy as to a re-grouping of age distributions of the causes of death, and as to the consequences nationally of not only increased longevity but also of improved physical conditions upon the human race.

Certain landmarks in the past history of preventive medicine make an unusual addition to his general survey of the subject. The volume is divided into sections dealing first with the groups as named, followed by a section on special aspects of hygiene and sanitation of infancy, childhood, heating and ventilation, personal hygiene, and domestic sanitation. Sections VII deals with demography, the statistics of population, births and deaths, and sickness with charts and maps showing methods of study used.

The final chapter, though short, deals interestingly with public health administration, national, state, and local, and argues for more co-ordination of existing federal agencies, which in the author's opinion, can probably best be accomplished by the creation of a single public health department.

The book is well illustrated, well printed and the subject matter well presented, making a valuable contribution to the subject, though the author states as his object, the brief presentation of only the salient points, referring those particularly interested to larger and more exhaustive treatises.

H. R. Reynolds,
Surgeon U. S. P. H. S.

PSYCHOPATHOLOGY

By Edward J. Kempf, M.D., Clinical Psychiatrist to St. Elizabeth Hospital, (Formerly Government Hospital for the Insane), Washington, D.C. Author of the *Autonomic Functions and the Personality*; 87 Illustrations. C. V. Mosby Company, St. Louis, 1920. Price \$9.50.

In the introduction the author states that psychopathology treats of the abnormal, that is, abnormal thoughts and actions and their causes as they are found in individuals. A collection of cases of abnormal behavior and sexual maladjustment are presented in which the individual does not realize the delicate relationship of civilization which is fostered with vigilance and sound wisdom.

The physiological foundations of the personality involves the question of hypertension or hypotension in which the autonomic activities are influenced for

relief and if unrestrained, subject the personality to embarrassing situations. The autonomic apparatus includes all the vital organs, the ductless glands, secretory glands, unstriated muscles and the ganglionic nervous systems. The postural tonus of the striped muscles influence the autonomic neurones of the cord to an adjustment determined by the nature of the tonus as of the stomach, in exciting the sensation of hunger, or a painful contact stimulus, a contraction of the blood-vessels, a diminution in the secretion of gastric juice, and an increase in mucus secretion. This status produces disagreeable sensations and a feeling of fear or anxiety. The psychic tonus of suggestion finds relief in objects or symbols, as in lower orders of civilization, or in religious fanaticism. In confused psychosis whether related to organic or metabolic disturbances, the autonomic cravings are the dynamic factor.

The author devotes some space to the consideration of the collection of psychoneurosis and psychosis in relation to autonomic affecting resistance to a receptor as it lowers its power to produce sensational reactions in consciousness. It is under these conditions of psychopic tension that patients submit to unnecessary and illogical surgical operations for relief of erotic cravings or other conditions. The relationship of families form the subject of psychopathologic consideration often of the most tragic character, either real or imagined, based on sexual autonomic tension. It is said that 30,000 cases of so-called dementia precox, that is, chronic regression dissociations of personality occur in the United States every year which demands, according to the author, a reconstitution of a more helpful, honest basis, and cites many instances of sexual selfishness in illustration which have destroyed married happiness. Chapter third on the contrary is devoted to the consideration of virility goodness and happiness, a subject which demands much serious consideration in restoring vanishing happy married life. Chapter four is devoted to the consideration of organic and functional inferiorities upon the personality, and chapter five; mechanical classification of neurosis and psychosis, produced by distortion of autonomic-affective functions. Chapter six considers in considerable detail the mechanism of the suppression, or anxiety neurosis. This chapter has an acute bearing on many problems which come to the medical practitioner and which is so often hidden from the social world.

Repression or psycho-neurosis. Their mechanism and relation to psychosis due to repressed autonomic cravings. This chapter bears directly on many morbid social conditions, religious, and medical, and is the cause of much unhappiness and for which family relationship is often responsible, and is the source of much scandal.

Maniac-depression psychosis as benign compensation or regression neurosis, with or without dissociation of personality, the psychopathology or

(Continued on Advertising Page xviii)



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BOOK REVIEWS

(Continued from Advertising Page xvi)

paranoia, the psychology of the acute homosexual panic, chronic paranoid dissociation, chronic catatonic dissociation, chronic hebephrenic dissociation, reconsideration of determinants of behavior. These chapters except the last relate to distinct insanities.

The book as a whole is one of exceptional value and should be carefully studied by physicians who sustain the relation of the family advisor. Immense good may be accomplished by the physician of courage who will intelligently inquire into the secrets of the family relation and firmly point out the wrong being committed, and thus restore the normal relation and balance, which is so important to the family and to society. This book should be of great value. It is written in a fearless and attractive manner and should be extensively read by the trusted family physician.

PRACTICAL DIETETICS WITH REFERENCE TO DIET IN HEALTH AND DISEASE

By Alida Frances Pattee. Thirteenth Edition. A. F. Pattee, Publisher, Mount Vernon, N. Y., \$2.25.

A text-book to have passed through thirteen editions must possess more or less merit. This last edition has been brought up to date by the incorporation of the latest researches in dietetics and embraces the latest dietaries of leading physicians and hospitals. It contains several chapters on the principles of nutrition and preparation of food for the sick; also contains a large collection of recipes—useful to any one. It is a valuable book not only to nurses but to any one interested in the subject of diet for the sick or well.

CREATIVE CHEMISTRY

Description of Recent Achievements in the Chemical Industries. By Edwin E. Slosson, M.S., Ph.D., Literary Editor of the Independent. The Century Co., N. Y.

A book on chemistry written for the layman, describing in plain language the modern processes of the chemical industries.

NEW AND NON-OFFICIAL REMEDIES

During December the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

Calco Chemical Co.:
Salicaine.
Coleman Laboratories:
Bacillus Bulgaricus.
E. R. Squibb and Sons:
Procaine.

H. T. Procaine.
Solution Tablets Procaine.
Winthrop Chemical Co.:
Adalin Tablets 5 grains.
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Novaspirin Tablets 5 grains.
Lederle Antitoxin Laboratories:
Typhoid Glycerol-Vaccine.
Typhoid Combined Glycerol-Vaccine.
Pertussis Glycerol-Vaccine.
Pneumococcus Glycerol-Vaccine.
The Beebe Laboratories:
Pneumococcus Vaccine No. 14.
Typhoid-Paratyphoid Vaccine No. 39.
Colon Vaccine (Acne) No. 11.
Acne (Mixed) Vaccine No. 10.
Non-proprietary Articles:
Phenetsal.
Saligenin.

During January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

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Hynson, Westcott & Dunning:
Globules of Benzyl Benzoate.
Heyl Laboratories:
Acriflavine.
Proflavine.
Intra Products Co.:
Calcium Cacodylate—IPCO.
Winthrop Chemical Co.:
Salophen.
Morgenstern & Co.:
Salophen.

During the months of February and March the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

Armour & Co.:
Corpus Luteum Tablets, 5 grains.
Ampoules Pituitary Liquid—Armour 0.5 c.c.
David B. Levy:
DuBois Iodoleine, Injectable, Ampoules, 2 c.c.
E. R. Squibb & Sons:
Fat-Free Tincture Digitalis.
Arsphenamine—Squibb.
Neoarsphenamine—Squibb.
Sodium Arsphenamine—Squibb.
Abbott Laboratories:
Tablets Acriflavine—Abbott 0.46 Grain.
Hynson, Westcott & Dunning:
Sterile Ampoules of Benzyl Benzoate—H. W. D.

Doctor, if you should fail to receive a copy of your Journal in the near future, please ask yourself: "Have I paid my 1921 dues to the County and State Society?"

The Journal of the Iowa State Medical Society

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No. 6

SOME APHORISMS OF THE ENDOCRINES*

For the better instruction of the Instructors in
Social and Political Economics

HORACE MANCHESTER BROWN, M.D., F.A.C.S.,
Milwaukee, Wisconsin

PROAEMIUM

No discovery in any field of knowledge is of value until it finds its application to man for the benefit of mankind. The gateway for the application of such knowledge is most frequently through the science and art of medicine, but in the case of the application of our present knowledge of the endocrines, that method is inadequate, and if results are to be obtained that shall be of value to the race, the teachers of economics must share in our service of application, and we must first teach them.

The teaching of economics in all its branches in our universities is in a great degree false and inadequate, for the reason that its premises are not in accordance with now recognized and established physiological knowledge.

The artisan does not attempt to produce a satisfactory product, except he be thoroughly familiar with the raw material with which he works. Does the professor, whose material is the human animal, know the newer facts in regard to the physiology and psychology of man; the animal that is his raw material? If we are to judge from the products of much professorial reasoning, the answer is, "No."

Has the time arrived for a new Vesalius, or a new Harvey to hold up the lantern of knowledge that the professor's mind may be illuminated and made receptive for a new and better basis for his teachings?

POSTULATE.—All human acts are the result either of instinct, or of conscious or unconscious cerebration, what is called "thinking."

With the first—instinct—I have nothing to do in this paper. My thesis will be "With what do we think?"

Among the earliest theories with relation to the use of medicines for the treatment of disease or for the purpose of changing the dispositions of men or women, appears the thought that by feeding an individual, parts of an animal that was particularly celebrated for fleetness of foot, or for bravery in the fight for life, the man thus receiving this flesh or parts of such an animal would soon begin to partake in his character of the characteristics of the animal whose flesh had been fed to him.

This belief has persisted in the history of medicine throughout all time and is common today in the beliefs of many peoples. It was perhaps from the observances of this belief among the people that Theophile de Bordeu in France about the year 1750 brought forward his theory that every tissue and gland of the body secreted its own particular and specific substance, and that every such substance was essential to the welfare of the body.

So far as we know, this was the first time that the idea of specific function was attached to the secretion or production of any of the tissues, and it was the beginning of the steps that led after a period of a little over 125 years, to the investigations that have given us our present knowledge of the ductless glands of the endocrine system, and of the tissues and organs which take so important a part in the maintenance of function and of growth, in our physical economy.

It is not my intention to go minutely into the history of the development of our knowledge. If this paper is printed there will be attached to it a chronological list of the important investigators, the date of their work and the advances they had made in this line of study.

It is my purpose to show as briefly as may be possible what the endocrinic organs and tissues are, their various classes, and to renew in your minds perhaps your previous knowledge of the important position they play in the processes of cerebral activity.

The glands which produce a special secretion which activates some other organ or a series of organs, at a distance from the gland or tissue producing the secretion, may be classed roughly in

*Read at the meeting of the Tri-State Medical Society, October 6, 1920, at Waterloo, Iowa.

three orders. First: those that are entirely ductless and which produce but one secretion, which is poured directly into the blood. These are the supra-renal capsules, the thymus, the thyroid, the para-thyroids, the carotid gland, the pituitary body and pineal gland, and the spleen. Second: those glands which produce secretions of a similar character but which have ducts for the transmission of other secretions produced by them, are the liver and the pancreas, in the latter of which are lodged the Islands of Langerhans. Third: Those which have mixed functions but which are not to be classed directly in either of the two preceding divisions, are the hormonetic portion of the stomach and mammary glands, the ovaries and uterus, at certain times the placenta, the testicles and probably the prostate.

There are undoubtedly other areas, glands or organs in the body which perform endocrine functions which are yet to be discovered.

It will be seen that these organs belong to two groups, each having its own special form of nerve supply. The liver and the pancreas and some of the organs of the mixed group are supplied and regulated from branches of the vagus, while the others derive their innervation from the sympathetic system of nerves. Nevertheless, each group is self-composed and is, therefore, called autonomic; the group supplied by the vagus being known as the "vagal-autonomic," while those glands which derive their innervation from the sympathetic nerve system are called the vegetative system, or the "vegetal-autonomic." Not all the organs or tissues which produce endocrine material or hormones are in constant function, as for instance, the endocrine function of the uterus or mammary glands is limited to special times and periods. Hormone arising from the placenta is only active during the period of gestation, but generally speaking, the secretions of the organs of the two systems are being constantly produced and being sent into the body by way of the blood, to activate distant organs in the performance of their own special functions.

It is to be remembered that function of these hormone producing or endocrine organs is one that is performed entirely without consciousness, volition or control on the part of the cerebrating portion of the nervous system.

There is always in existence in the normal individual a condition of control called the "hormonic balance;" it being that state of equilibrium which exists between the stimulative or irritative action of the products of the endocrine organs of the vegetal-autonomic system, and the inhibitive action of those of the vagal-autonomic system.

The special products of the vegetal autonomic system, like the thyroid, para-thyroid and the adrenals are mostly stimulants to function of distant organs. Whereas the endocrine products of the vagal autonomic system are inhibitors. The foregoing general statement being granted, and the intimate relation existing between the function of these specific hormone producing tissues and organs, and the organs and tissues that are acted upon by their products, being understood, it will be clear to you that there is apparently no organ in the body which is not in some degree dependent for its functional activity, upon stimulation sent to it by the hormonetic substances derived from endocrine glands or tissues placed at a distance from it.

It is not the purpose of this paper to take up the problems of the varying results produced upon the body as a whole by the excessive action or continued diminished action of any of these glands. You are all of you familiar with the literature of hypo-thyroidism and hyper-thyroidism, of the results of hypo-epinephrism and hyper-epinephrism, and of defective action of the different parts of the pituitary body. That part of the subject of the functioning of the endocrine organs does not relate to the thesis of this paper.

It is my purpose to draw your attention to the particular modification of the processes of thought that are the result of the failure of action of any or of all of these endocrine organs and to place before you if possible the problem which confronts all our past system of political and social economy which has been based upon a theory that human motives and human acts had their origin in a brain which worked by itself, uninfluenced by any other organs in the body.

It is not my intention to discuss the problems of the conditions of mentality that come under the head of the insanities, or those that are the result of retrograde metamorphoses of the structures of the cerebrating organs in the skull, but only to attempt to attract attention to the one outstanding fact that the nature or quality of human ratiocination, is dependent upon the harmonious functioning of the brain and the endocrine organs.

Let us examine for a moment an instance of what I mean by this. It has been shown that any emotion, passion, pain or grief stimulates the production of the product of the supra-renal capsules and that accompanying every shock, whether physical or mental, there is an increased amount of the product of the supra-renal, thrown by it into the blood. No doubt the endocrine material from many other endocrine organs is in some degree also produced under such circumstances. It

is probable, in fact well-nigh proven that the presence of the supra-renal juice in the blood stimulates in a great degree the emotional portion of the brain, and it is safe to say that emotion produces intellectuation; so we are secure in stating that there can be no intellectual cerebration that has not been induced first by an impression, then by emotion, the sequence of events being, impression, percept, emotion, concept, intellect, action.

Even as there exists an harmonic balance between the functioning of the two autonomic systems so also there must be—in order that intellectuation can take place with anything like normality—a balance existing between the capacity of cerebration and the endocrine impulse that is produced upon the more intellectual side of the brain through its stimulation of the emotions.

We know perfectly well that increased function of certain of the endocrine glands produces strange deformities in the processes of growth of the tissues of certain parts of the body; e. g. the effect of the diminished supply of the secretion of the anterior portion of the pituitary body produces those strange symptoms known as hypo-pituitarism. It is quite as certain that the effect of an excessive supply in the blood of the products of the endocrine glands brings about modifications of the functioning faculty of the brain, just as they produce modifications of growth and function of other portions of the body.

The literature pertaining to this subject is rapidly increasing and the laboratory work tending to prove my last proposition is not wanting. What I have said thus far will serve as a foundation for the proof of some of my aphorisms in their entirety and partially for all of them.

An understanding of this relationship that exists between the action of the products of the endocrine glands upon the emotions and intellectuations produced in the brain, furnishes an excellent basis for an understanding of the character of that group of men who are called "high-class morons;" although the term in its strict meaning does not apply to them. One has but to examine the figures and faces of the greater number of men and women who are engaged in promoting radical, anarchistic, socialistic and bolshevistic theories, to recognize that their faces show the stigmata of physical changes which are due in some degree either to hyperaction of the endocrine system or to a hypoaction of that system. It is a great pity that such men and such women are of a sufficiently high grade of intellect as to be capable of impressing their absurd notions of social order upon the youth of our country during

the time when it is seeking education and culture in our universities.

The sophomoric age of young men and young women is the one during which their brains are most affected by the functioning of the sexual endocrines and when with their heads full of romance, they listen to the lectures of their professors—whom they are led to believe are very wise men—they absorb all sorts of absurd notions of social and political economy which are founded upon theories which give no recognition to the endocrine system of the body and are enunciated by men utterly ignorant of the physiology and psychology of their production and function.

The writings of some of the professors in some of our universities upon economic subjects give evidence of such utter ignorance in regard to matters depending for their solution upon a recognition of the need for harmonious function between the endocrine systems of the body and the cerebral part of the nervous system, that one, even with a superficial knowledge of this need, stands astonished at the professorial ineptitude.

At this time it is impossible for any man to dare to state that thinking is done by the brain only. But these theories are extremely plausible and to the romantic mind of the emotional youth and upon those peculiar minds of certain races, among others the semitic and the celtic, that are characterized by a greater love for emotion than for logic, they leave a lasting impression, and result in the effort on the part of the disciples of the plausible but ignorant speaker, to carry out his theories in the most absurd transgressions of social order and in threatenings of destruction of the civilization that has been builded upon a foundation of the experiences of all the ages.

The present widespread disturbances of social order are the direct result of the teachings of men, presumably qualified to lead, who, themselves suffering from a lack of balance between endocrines and cerebral function, teach theories of political economy, ethics and social economics, while utterly ignorant of the physiology of the body and of the relations of the endocrines to psychology. The present economic situation in the world is the direct outcome of perversion of endocrinic activity through exaggeration of the emotional side of cerebration at the expense of the intellectual side, for endocrinic activity stimulates emotion, and again emotion creates endocrinic activity and a vicious circle is formed.

It is unfortunate at the present time, when it is necessary that every educated person should be prepared to stand firmly upon a foundation of common sense in regard to social order, that the

teachers in our universities promulgating such theories as I have mentioned, have the opportunity to be heard by so large a number of young women. For, say what you will, a woman remains always a woman, and it is an essential and unchanging factor of her nature, that her emotions are more precious to her than her intellectualizations. The results of such teaching falling upon the plastic nature of the naturally emotional part of humanity, are leading to endless complications in social life, and while these complications can have no lasting term of existence through any great period of years, yet while they do last they are productive not only of great disorder, civic and moral, but also of notable degeneracy in the attitude of women toward those things which are naturally their normal function and normal purpose for existence.

We of our profession are being constantly brought face to face with some of the problems which are the result of the persistence of endocrinic action upon the emotional side of women after the menopause. Some of these are extremely amusing and some tragic. It has been my experience that women who reach the menopause go in one of three directions. The first and the greater number, thank God, become the dear, sweet, lovely old ladies; another group still feeling the effects of the endocrinic stimuli of the ductless glands, become distinctly sexually immoral; while the third group becomes entirely derailed. The mother instinct still persisting, they become meddlesome busybodies, useless interferers in everybody's affairs, wildly desiring newspaper notoriety—thinking it to be notability—and a reputation for prominence. This latter class forms one of the curses of modern society, and there seems to be no solution for the problem which they present.

Yet we of the medical profession can possibly forgive them, for with our knowledge of the endocrine function of certain portions of their bodies, we recognize the spark of truth which was enunciated by the wise Arabic philosopher Moarbeda, and the philosopher of Bologna who said their faults should be forgiven them for, "they were the work of the womb."

Nor are men free from the effects of persistence of sexual endocrinic function, after the age when the spinal impulse is diminished. All about us we see instances of "old men in love," with irritated prostates and partially functioning endocrine organs leading them to believe that they are in love, when really they are being deluded by the endocrine function and the irritable bladder. Both disturbances might be removed by a proper use of

a catheter. If we are permitted to reason backward, from effect to cause, we shall conclude that the acts many men with irritated prostates, even those in very high places, are the result of loss of endocrino-cerebral harmony. I sometimes think that we are now living under a "prostatic administration," in an era of dominance by fat-thighed men and skinny-hipped women.

Again as the result of the persistence of sexual endocrine production, we often see instances of the crime of old men upon the body of the young girl or the little child. It is a problem. Is the man to be blamed? It is not his intellect that is acting, nor the lumbar enlargement of his spinal cord; it is a nervous and cerebral system entirely out of balance owing to the loss of harmony in the endocrino-cerebral functions.

One is appalled when one stops to consider what the world, and particularly our own country, has suffered since the time of its establishment, from a fixed belief in the political philosophy of Jean Jacques Rousseau and his ideas of equality, and from the imitating philosophy of Thomas Jefferson, as to mankind. The former a sexual-endocrinic pervert, and the latter a blind worshiper following the former's errors.

In the statement of the Aphorisms that I shall draw from the points in regard to the functioning of the endocrines in their relation to cerebration, I shall endeavor to point out some of the follies of these two men, that have been the foundation of absurd political theories, not only of our own country, but of the great group of anarchists, socialists, communists, bolshevists, *et id genus omne*.

It is a curious thing in the functioning of the endocrine organs in their relation to cerebration, that the predominant and always recurring factor in every instance of disturbance of balance between the endocrines and the cerebrum, is the prominence of the sex factor. No one of the great social or politico-economic schisms that have ever appeared has been without its predominating sex problem. And for him who has read Mosheims Ecclesiastical History, it is amusing to see how, throughout the ages since the beginning of the Christian era, with each century there has been from three to five outbursts of social or political disorder all running true to form, crowds of people following the lead of some perverted endocrinic maniac, whose ultimate purpose seems to have been to establish a cult for carrying out some special form of sexual or social perversion.

I beg now to offer for your consideration and perhaps condemnation, a series of aphorisms which I have formulated as a result of my read-

ing and the basis for which I have given you in what has gone before.

APHORISM No. I

Reason by cerebation alone can take place only in the absence of any functioning of any of the endocrine organs, and the latter condition is not possible during life. Ergo: purely cerebrational reasoning is impossible, unless reason be possible after death.

APHORISM No. II

No Man Is Born Free.

Every human being is born into the world shackled by his inherited quality of presence of normal or abnormal endocrines, and is a prisoner to their capacity for securing development of body and brain. He is throughout his life in the custody of his surroundings, these the result of forces over which he has no control, and which he can make conformable to his wishes, only by limiting his desires to the conditions which surround him. His political freedom—the outward manifestation of which is his privilege of the ballot—is more often an expression of an emotion than of a reasoned conclusion. Through life he is the captive of his emotions, not their ruler. He is born into a tyranny from which he can never escape.

APHORISM No. III

No Two Men Are Created Equal, Either Before the Law or Otherwise.

1. The inevitable difference of inherited tendency, and pre- and post-natal differences of development of the endocrine organs, in any two individuals—all other factors of existence being eliminated from the argument—make it impossible for any two individuals of the genus homo, to be equal in any capacity.

2. Before the law no two men are equal, because the law is a thing of human production, and may be compared to a ready-made suit of clothes; it fits nobody exactly, but it approximates the fitting of everybody. The nearer it approaches fitting any two people, the nearer it comes to giving to that particular pair, "equality before the law." But it never fits, for after all it is a thing of human production, and the greater cerebro-endocrinic competency of one man makes him more capable of securing the better lawyer than that of another. Solon said: "Laws are like cob-webs; if any trifling or powerless thing fall among them, they hold it fast, while something weightier breaks through them and is off."

APHORISM No. IV

Equality of Opportunity Is Impossible.

Opportunity unrecognized does not exist, and as the capacity to recognize opportunity is the result of ability, and ability the result of reason, and reason the result of balance between, or of harmony between cerebation and endocrine function, any disarrangement of either in any one of two individuals destroys their quality of opportunity.

APHORISM No. V

The sum of the experience of mankind throughout the ages is the only basis for social order. This experience has shown that the more competent individual must control the less competent, in order to secure the greatest good for both, and thus the welfare of mankind.

The reverse of this proposition would be unthinkable, and its functioning would destroy all progress.

APHORISM No. VI

The individual with the better condition of endocrine harmony is always the more competent. The individual with the greater perversion of endocrine harmony is always the less competent, both in body and in cerebrating faculty.

Thus: If this be true, competence for success in life is a physical matter not one dependent upon pure mental capacity, for purely mental function or purely cerebral reasoning has no existence.

APHORISM No. VII

Man does not reason with his brain alone, but through the mutual and harmonious functioning of the contents of the skull and all of the endocrines of the two autonomic (vagal and vegetative) systems.

APHORISM No. VIII

Any disturbance of any of these inter-related groups prevents cerebation in harmony with accumulated experience, and such cerebation if acted upon to motivate action is always destructive of social and political order.

APHORISM No. IX

Errors of endocrine balance in males and females of the species have produced many feminine men and more masculine women. That instances of special ability in individuals of the masculine-female type have occurred, does not prove that women can in any way function or take the place of man in the cosmos; nor does the converse of the sex conformation prove that man can take

the place of woman. In both instances, the physical, physiological and phychical conditions are endocrinic abnormalities, and such types are in the mass failures in both sex characteristics.

However nearly the hen may approximate the production of a praiseworthy crowing, or however closely she may imitate the strutting of the cock, at certain times she must, whether she will or no, squat and lay an egg. This is a beautiful and most praiseworthy function and one in the performance of which the cock would make a ghastly failure, and it is one, in the performance of which, the cock has no desire to rival the hen. Why should the hen wish to crow?

APHORISM No. X

Any theories of social or political economy that are not founded upon a thorough understanding of the functions of the endocrines, in their relation to the determination of the characteristics of the individual, and thus the determination of the nature of the masses, are as houses builded upon the sands.

The artisan to produce good work must know the material with which he works. The artist must know his colors, the sculptor his marble. The privilege seems to be reserved only to the teacher of the vital theories of economics, social and political, to attempt to produce peace and happiness by promulgating theories concerning the foundation for which he is strangely ignorant, and of the nature of the material that is to be acted upon by this theories, he is indifferent.

APHORISM No. XI

The quality of all cerebation, both emotional and intellectual, being dependent upon endocrinic and cerebral balance of function, and this balance being subject to constant derangement, the predicate of any postulate or proposition—except it be those of mathematics—is never conclusive and therefore no theorem of economics is or ever can be apodictically (finally) proven.

APHORISM No. XII

Malingering both of bodily infirmity and of social discontent, (and by this I mean exaggerated estimates of oppression, class consciousness, etc.) are evidences of endocrino-cerebral harmony derangement; and the latter is the most dangerous to society.

APHORISM No. XIII

Because man does not think by cerebation alone, no society or social order that is founded upon the commonly accepted basis of the origin of

reason can be maintained without the employment of force. (Compulsion.)

The two fundamental laws that rule the destinies of all living things remain today as they were in the beginning of time.

1. Get nourishment: (2) reproduce your kind. Nourishment stored becomes property and demands protection. Protection of the less competent individual against the desires of the more competent means resistance. To live without compromise and arrangement; without a more thorough understanding of the originating causes of our acts and a willingness "to yield that strength may be;" without an understanding of the need for the "Noblesse oblige" principle on the part of the more competent, means always the rule of the "law of Claw and Fang."

"The good old-fashioned plan,
That he shall take who has the power,
And he shall keep who can."

And thus we come back to the philosophy of the "Golden Rule."

APHORISM No. XIV

Compulsion (force) as a means of maintenance of the social order is always destructive and its action upon cerebation, through disturbance of endocrino-cerebral balance, destroys its own object by increasing the error of balance; or in other words, by bringing discord into the harmonious functioning of the cerebrum and the endocrines.

Thus the vicious circle completes itself and we find ourselves where we started and without a solution of the problem, except that the law of "experience of the ages" still holds, and in its presence theorists, reformers, up-lifters, derailed menopausics and those who believe that they can make man good by making laws, if their endocrino-cerebral function were in harmonious atunement would cease their ill-considered maunnderings, and perhaps retire like Tityrus to rest themselves "beneath the shade of some umbrageous beech," and leave the world to its solution of its problems by the slow process of the attrition of time and by the accumulation of experience.

CONCLUSION

If the aphorisms that I have promulgated are indeed true and therefore defensible, the time has come when the teacher of ethics and economics in any of its branches must abandon his present notions based upon the idea that man is a thinking animal, acting upon the impulses that are the result of his cerebation alone, and accept the facts that are demonstrable in regard to the endo-

crinic origins of thought. Having done this it is for the philosophers of economics to generate and elaborate a new system of ethics and economics founded upon the facts and not upon theories that have been rendered nugatory by the advances in physiological science.

I cannot close my paper without calling the attention of those of my hearers who have not given the subject of the endocrines much attention, to the colossal work done by our own Sajous of Philadelphia; to that monument of experiment and inductive reasoning that has come from the hands of Cushing of Boston; to the collection of clinical cases illustrated by Bainbridge of New York and the summaries of the progress of endocrine investigation coming from the pen of Col. Fielding H. Garrison of Washington.

Socrates said that he knew nothing except the fact of his own ignorance. Perhaps I have exhibited my own, but I assure you that in this regard I am like Socrates, I am quite aware of it. I have proved nothing; I have not tried to; but I hope I have given some among you food for thought.

INVESTIGATORS AND AUTHORITIES

(Indebted to Fielding H. Garrison, M.D.)

Caius Julius Solinus (III Century)—Early description of case of Pituitary Disease. *Polyhist.* Cap. V.

Bedeu, Theophile de (1767)—Advanced the theory that each tissue or gland secreted its own peculiar substance, and that each was necessary to life.

Claude Bernard (1843)—Discovered glycogen.

Moritz Shiff (1856)—Found excision of thyroid of dog always fatal.

Sir William Gull (1873) and Ord. (1877)—Described myxoedema.

Robert Graves (1835)—Described ex-ophthalmic goitre.

Addison (1849)—Addison's disease.

Theodor Kocher (1878)—First thyroidectomy for goitre.

August Reverdin (1882)—Proved possibility of production of operative or surgical myxoedema.

Sir Victor Horsley (1884)—Repeated Reverdins experience with monkeys.

Sir Felix Semon (1888)—Proved cretinism and myxoedema identical.

Brown-Sequard (1889-1893)—Experimented with testicular extracts.

Opie, Ssebolow and McCallum (1892-1909)—Worked on problems relating to the Islands of Langerhans in the pancreas.

Eugene Baumann (1896)—Discovered Iodine in the thyroid.

Ivar Sandstrom (1880)—Proved para-thyroids necessary for calcium metabolism.

Leischman and Halsted (1909)—Tetany and the para-thyroids.

Oliver and Schaefer (1895)—Division of the pituitary.

Howell (1898)—Function of posterior lobe of pituitary.

Sajous (1903)—Work on the Hormonic organs.

Harvey Cushing (1910)—His work on the function and surgery of the pituitary body.

Up to the present time only Pituitrine, Epinephrine and Iodothyrene have been isolated.

THE NEW CHARLOTTE MEDICAL JOURNAL

The Charlotte Medical Journal was founded in 1877 by the late Dr. Register. Now appears under the editorship of Dr. M. L. Townsend. The New Charlotte Medical Journal presents a very attractive appearance and fairly represents southern medicine and surgery.

CEREBRAL ARTERIOSCLEROSIS*

F. A. ELY, M.D., Des Moines

The subject of cerebral arteriosclerosis is one of great importance, both from the personal standpoint of the individual suffering therefrom, and as it pertains to professional and life insurance interests.

It will hardly be worth while, in this presentation, to deal extensively with the subject of etiology, in as much as the etiology of general arteriosclerosis in no way differs from that of the cerebral type, but the fact that the sedentary, shut-in, brain worker who eats heartily and eliminates poorly is especially susceptible to vascular accidents in the brain, and the well established observation that certain families exhibit a tendency toward early deterioration of the cerebral blood-vessels, is worthy of note. Numerous instances may be cited by any good clinical observer which will prove conclusively to his own mind, especially when corroborated by the experiences of others, that apoplexy and cerebral thrombosis do occur extremely early in some families.

It is not at all strange, owing to the anatomy of the cerebral circulatory mechanism, that vascular accidents and retrograde tissue changes bring about a very grave group of symptoms when arteriosclerosis develops in the brain. You will kindly bear with me while I briefly call attention to the anatomic peculiarities of the cerebral blood supply. We have at the base of the brain the four large arterial mains, namely, the two internal carotid, and the two vertebral arteries, uniting by means of the posterior and anterior communicating arteries, to form what is known as the Circle of Willis. This arrangement, which is a master example of collateral circulation, is of great importance in that it insures the free transmission of blood to the brain even though one or more of these vessels become accidentally occluded. Then too, it has a tendency to equalize the blood supply in such a manner as to prevent an interruption of function which might otherwise be brought about by sudden variations in volume and blood-pressure. From the Circle of Willis are given off in a more or less symmetrical manner, the anterior, middle, and posterior cerebral vessels, each hemisphere being irrigated by three large arterial channels. Shortly after leaving the Circle, the cerebral vessels divide deep branches being given off to the basal ganglia and their immediate environs, and superficial ones, which ramifying in the Pia, provide for the irrigation of the cortex.

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The branches passing to the basal ganglia are of fairly good size, but in their subdivisions do not anastomose with the twigs from their own or the cortical circulatory systems, in other words these vessels which constitute the central ganglionic system are end arteries. The vessels which enter into the formation of the cortical system, ramify in the piaarachnoid and send long and short branches into the cortex. These cortical vessels give off numerous minute branches which sparingly anastomose with the twigs arising from like contiguous vessels. It has been demonstrated experimentally, that anastomotic communication is very slight, it being very difficult to inject a cortical area, the supply artery of which, has been blocked by means of the vessels supplying the bordering territory.

From the foregoing anatomical hints, it immediately becomes obvious that between the terminal branches of the ganglionic system and those of the cortical system, there exists a circulatory "No Man's Land" which is poorly nourished, and is therefore, eminently susceptible to retrograde changes and death. Anatomically, this area of low vitality corresponds roughly to the centrum semiovale. Although the cortex is rather more safely supplied with blood, it is nevertheless, as compared with other tissues in the body, peculiarly liable to degenerative changes as a result of the blocking of blood-vessels.

In as much as this subject was assigned to me, and not my own selection, I am obliged to draw very largely from the contributions of others in the presentation of this paper. This is particularly true with reference to the pathologic side, it having been my misfortune not to have had any extended experience, except in a clinical way, with this type of cases.

Considerable discussion has arisen with regard to the exact bearing which cerebral arteriosclerosis has upon the involution psychoses and the organic dementias of the involution period. Arteriosclerotic insanity has now come to be recognized as a definite entity. It is true that a marked cerebral arteriosclerosis may exist without any apparent mental disturbance, and that conversely, mental disturbance obviously of the arteriosclerotic type may be present without any very gross vascular degeneration. Nevertheless, it is now quite generally believed that the arteriosclerotic psychoses are found in those cases in which subsequent autopsies demonstrate a preponderance of vascular degeneration of the terminal vessels of the cortical system. When considered from a physiological point of view, this would seem most logical, owing to the fact that

the centers and mechanisms of personality are to be found largely in the cortex; therefore disturbance of the cortical functioning as the result of a diffuse disturbance of blood supply, would give us exactly the syndrome which we find in arteriosclerotic insanity.

The pathological anatomy demonstrable in arteriosclerotic insanity, as described by Kraepelin and others, may be summarized as follows: thickening of the cerebral vessels, thickened and occasionally adherent dura, thickened and cloudy pia, atrophy of the brain in general, fresh and old areas of hemorrhagic softening in the cortex, and ventricular dilatation. Microscopically, pathological changes are most readily demonstrated in the vicinity of the altered blood-vessels. The normal structures are changed and replaced by neuroglia. The blood-vessels manifest the common arteriosclerotic alterations, such as swelling and splitting of the elastic stratum, general thickening of the walls, and retrograde changes in the muscularies and adventitia, together with a tendency to hyalin infiltration. The lymph spaces exhibit an increase of connective tissue, pigmentation, and an excess of granular cells. There is a perceptible diminution and alteration of the nerve cells, and throughout the intercellular tissue there is a general dissemination of highly stained glia nuclei with a tendency to distinct grouping, particularly about the vessels. The vessels of all sizes exhibit few nuclei and as previously stated, show thickening and hyalin changes. Not all portions of the cortex are equally diseased and yet the degenerative process is usually quite extensively distributed. Attention is called to the fact that the condition of the large vessels in the pia is not a correct criterion of those invading the cortex, since the former may be greatly changed without much alteration of the latter. The cortical nerve fibres together with those passing into the white matter, are subject to changes commensurate with the vascular disease. Along the line of the vessels in the white matter there is a tendency to cavity formation which is recognized as a very characteristic alteration. As might be expected, the chief clinical symptoms resulting from such a pathological picture are, dementia associated with multi-form focal manifestations.

The early evidences of cerebral arteriosclerotic insanity are similar to those of arteriosclerosis in general, and include forgetfulness, fatigueability, diminished initiative, and failing ability to take on new and unusual activities. From the standpoint of the emotions, depression, irritability, whining, fault finding, and emotional episodes are pronounced. A feeling of bodily discomfort

which is vague and generalized in character tends to produce a picture of hypochondriasis for which the sufferer is frequently ridiculed or condemned. This tendency alone, and especially when associated with the feeling that they are not properly sympathized with, at times leads to suicide. Owing to a faulty apperception, delusions of infidelity and persecution may develop.

When an attempt is made to recount the various prominent physical symptoms, the difficulty of so doing will be readily understood when we remember that cavity or post-hemorrhagic cyst formation may occur almost anywhere in the cerebrum and thus interfere with the particular function presided over by the territory thus diseased. Hence only a generalization can be indulged in. Dizziness, syncope, generalized or localized convulsive attacks, paraphasia, parasthesias, paresis and paralyzes may occur. Pupillary reactions are usually undisturbed, though slight sluggishness may be present. Enlarged heart, generalized arteriosclerosis and moderate albuminuria are usually associated symptoms.

The onset and progress is usually insidious and slow. In one case which came under my observation, a man who had been an active and mentally alert attorney gradually began to shrink from his professional duties, and complained of fatigue and failure of mental concentration. He possessed considerable insight into his own condition in that he knew there was something wrong with him, and that although he looked well and robust, he could not drive himself to his work. Repeated physical examinations revealed nothing of interest save a slightly enlarged heart. This case having been observed before the days of blood-pressure instruments, I cannot tell what his might have been, but my impression is that it was high. For a period of at least five years the diagnosis in this case remained uncertain, but a progressive dementia ultimately developed with resulting death from cerebral arterial accident, some twelve years after the onset of the disease. Although a uniformly progressive dementia may extend over a period of years without any pronounced focal manifestations, most cases ultimately exhibit minor or major apoplectiform attacks, each leaving an aftermath of paresis and accentuated mental deterioration. In this type of cerebral disturbance the mixed forms of aphasia are apt to occur.

In contradistinction to the very slowly developing cases, our attention has been directed by Kraepelin to the severe, progressive form, in which, as he points out, there is a very rapid course leading to profound dementia and death. In most instances following such prodromal

symptoms as headaches, forgetfulness, and lack of energy, an apoplectic attack ushers in a subsequent state of extreme anxiety and apprehension, accompanied by delusions of persecution, self-accusation, and hallucinations. Confusion and mental clouding may be so pronounced that little appreciation of surroundings is retained. Extreme restlessness, with a tendency to wander about, suicide, and attempts to jump from the windows, may be noted, the restlessness being much more pronounced at night than in the day time. Mental clouding progressively becomes more pronounced and a state somewhat similar to that of a busy, muttering delirium may be observed at times. In these cases there appears to be no emotional stability. States of anxiety and euphoria may alternate. There is no apparent ability on the part of the patient to appreciate his own condition. Purposeless motor activity frequently makes such cases very troublesome to care for, and they are often exceedingly resistant to opiates or sedatives. Incoherence of speech and a disjointed, childish prattle is sometimes kept up for a considerable period of time. Frequently the restlessness is followed by profound dementia, as a result of which, little or no appreciation of the environment is manifest. Involuntary laughter and weeping may also be observed.

In attempting to illustrate in a graphic way, the general mental state of these patients, we might liken it to the splotches of light and shadow which may be seen on the ground in a dense forest at noonday; with the swaying of the trees, the lights and shadows change, and there is no continuity of either in any given spot. As an example of the discrepancy and variability of their mental power, we occasionally observe the ability to perform reasonably complicated problems in mathematics, even in the presence of marked dementia. Then again we have the variability in orientation with respect to time, place and person. As has been intimated, apoplectiform attacks, paraphasias, scanning speech, lack of continuity in writing, and inability to form letters, may be noted. Pupillary reactions are usually retained.

The course of this psychosis is usually prolonged, the duration varying from four to seven years. Apoplexy may bring about a fatal termination or death may be occasioned by uremia, failing heart compensation or pneumonia.

In discussing those disorders from which arteriosclerotic insanity must be differentiated, we immediately think of paresis as being the most difficult to rule out. When we consider the extreme generalization of the pathological changes occurring in the brains of paretics, it becomes ap-

parent that definite focal manifestations are much more apt to occur in arteriosclerotic insanity. In paresis the mind is more apt to wither before the body, whereas, in arteriosclerotic insanity the two are more commensurate and simultaneous. In arteriosclerotic insanity perception is more involved than memory, whereas in paresis the memory for both past and recent events, is more consistently diminished. While the arteriosclerotic may occasionally exhibit periods of elation, such periods are not as prolonged, uniform and fantastic as those observed in the paretic, and sudden flashes of brilliancy are not noted in paretics. In the presence of profound dementia, the arteriosclerotic exhibits better orientation than the paretic. The speech defects in arteriosclerotic insanity are more typically those of the paralytic type as compared with the slurring speech of paresis. The presence of extensive general arteriosclerosis, high blood-pressure, albuminuria, and negative findings in the blood and spinal fluid, frequently enable us, in the most doubtful cases, to arrive at proper conclusions.

Differentiation from syphilitic dementia may be quite difficult. The presence of positive evidence of lues in the blood and spinal fluid, the slower onset, the more slight degree of disturbance in memory and perception, the fewer and more persistent focal symptoms, together with a greater tendency to disturbance in the function of the eye muscles, both extrinsic and intrinsic, point strongly to a syphilitic dementia rather than to arteriosclerotic insanity.

As is too frequently the case, the treatment in these cases is very unsatisfactory. Rest, removal from business worries, reduction of the proteid foods, avoidance of stimulating drinks and excessive smoking, are of some benefit. I have been pleased to note in several cases, a marked temporary mental improvement upon the administration of frequently repeated doses of nitroglycerin. In fact, I am inclined to consider nitroglycerin as being helpful in some cases as a therapeutic test, temporary improvement occurring in arteriosclerotic insanity but not in paresis.

Discussion

Dr. J. F. Herrick, Ottumwa—I haven't anything special to say that would add to the interest of this paper. I wish to ask the essayist if he ever tried thyroid in those cases. I remember on a few occasions administering thyroid in cases of cerebral arteriosclerosis where it was a part of a general arteriosclerosis, and in one or two instances the results were peculiar. I remember one case in particular, that of a man over eighty years of age who had

all the symptoms, irritability, etc., that go with this disease. He had an attack that at first simulated apoplexy, but really was a disturbance of the circulation in the brain. I gave him thyroid and some three or four days later his daughter said to me, "I can see some change in father's condition, I do not know what it means." At the end of a week, when I saw him again, she said: "What did you give father?—he is forty years younger than before he was sick. Now he plays with the grandchildren and takes an interest in others about the house, he is not so irritable and seems altogether a different man." I have noticed this same thing in two or three cases and have wondered whether there is any explanation or what reason there is for it. As to nitroglycerin, there is no question but that it does give temporary relief. I would not call it a diagnostic agent, but it gives relief, as does anything that tends to dilate the arteriole system and allows a better distribution of the blood.

Dr. Ely—I realize that a subject of this kind is really more fitted for a group of specialists. I do not feel at all embarrassed that there is so little discussion. The subject of arteriosclerosis as related to definite psychoses is not so far removed from the ordinary manifestations of general arteriosclerosis. Dr. Herrick has referred to the use of thyroid extract. I wish to call attention to the fact that there are very, very many cases of myxedema of a mild, low grade that are not recognized, and that the mental state of the myxedematous individual might be very readily mistaken for that of the dementia of arteriosclerosis. From that point of view we might occasionally catch somebody with thyroid extract in which wonderful improvement would be made. Recently at a clinic admirably given in Davenport by Dr. Rendleman, a man was there exhibited who, if the clinician had not been rather keen, would probably have gotten by without a proper diagnosis. He complained of generalized aching, fatigability, there was apathy and stupidity, slowness of thought, irritability, and a great many of these varied phenomena which I have mentioned here as the prodromal symptoms of arterio-sclerotic insanity. Inside of thirty days this individual had been made another man by intensive thyroid treatment. That is one suggestion which I would make. Another is this: We must remember that in dealing with an individual whose irrigating channels are being shut off to all portions of the body, there is no reason why the endocrine system should not suffer along with the other tissues of the body. We are all familiar with the stimulating effect of the thyroid, and in this way we might obtain great benefit from the administration of thyroid. It whips up the circulation. Occasionally in these cases we have a low blood-pressure arterio-sclerosis, sometimes a high blood-pressure type, and I can see very readily how thyroid might act as a very good stimulant in cases of this kind irrespective of its specific function with reference to hypothyroidism.

HOW ARE WE TREATING THE EUSTACHIAN TUBE?*

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In taking up such a subject, I am not going to try to present something new, but will try to present a few facts that every man in this specialty has had to face, and to face it frequently, so that it becomes an embarrassing situation to all. When I speak of treating the Eustachian tube it is nearly always done so with the hopes of alleviating some disturbance in hearing, either acute or chronic trouble.

A short time ago a gentleman troubled with catarrhal deafness asked me if anything new had been found in treating a deafness that had troubled him some twenty-six years. I told him of the treatment I was using and of a few things that were being tried and he replied that many of those things had been used on him at least twenty-five years ago. Remarks like this makes one think about his helplessness in properly treating cases so that the relief given, will last more than a few hours or days.

The anatomy of the Eustachian tube being known to all will not be taken up in detail, but may be referred to from time to time. The patency or non-patency of the tube has often been a subject of discussion. Politzer states that the tube is closed except during the act of swallowing, when the levator and tensor muscles of the soft palate simultaneously open the tube and admit the amount of air necessary to counter-balance within the middle ear the outside atmospheric pressure working against the drum. Kerison thinks that due to the anatomical structure of the upper part of the tube there is always a certain amount of patency present which will permit the equalizing of the air pressure.

Before any treatment of the Eustachian tube should be attempted the condition of the nose, naso-pharynx and throat should be examined into. In the nose, spurs, ridges, deflected septums and sinus trouble should be irradiated if possible. From the naso-pharynx, adenoids should be removed and adhesions in the Fossa of Rosenmüller broken. The faucial tonsils should be removed from the throat if in a diseased condition and this condition exists in about 70 per cent of adults according to some authorities.

Pathological processes in the tube are usually associated with an acute or chronic infection of the naso-pharynx, and is subject to exacerbations

from time to time. These infections cause different changes to take place in the lining of the tubes such as a hyperplasia, round cell infiltration and thickening, and the subsequent formation of fibrous tissue. When the condition is acute, serum can be detected in the tympanum by inflation of the tube. As far as we know chronic non-purulent otitis media is an infection, inflammation or disease of the mucous membrane of the middle ear and in which about 90 per cent of the cases begin with some diseased condition of the Eustachian tube.

Since such a large percentage of cases of catarrhal deafness are due to a primary disease passed by way of the tube or originating in the tube it is up to the otologist to be able to treat conditions in the tube as well as in the nose and throat. It is in the method of applying medicine directly to the tubal membrane that we are interested in, for surgical treatment of the tube practically limits itself to the structure adjacent to the tube. Electricity has been used and is still in use either through the medium of a copper bougie which can be passed into the tube or small electrodes similar to the fulgeration type passed through the nose and the tissues about the opening of the tube stimulated. This type of treatment generally increases the activity of the glands in the mucous membrane and especially of the nose, setting up a rhinorrhea which persists for several hours. The results from this type of treatment I am unable to say anything about.

Radium has been used by some of the Norwegians in treating the Eustachian tube. Small doses of radium are placed near the openings of the tubes and retained in place for several hours or over night. The lymphoid tissue in and about the opening of the tube is rapidly reduced in size and gives the tube a more patent mouth. The exact method of holding the radium in place is unknown to me.

Many of us are egotistical enough to think that we can find the opening of every Eustachian tube with a catheter by the sense of touch, and perhaps so; but how many of us can so place the catheter that a bougie can be slipped into the tube without injury to the tissues of the pharyngeal opening. The rough handling of the bougie can cause as much damage as the disease which you are trying to treat.

With the aid of the naso-pharyngoscope placed through the opposite nostril one is able to see exactly where the end of the catheter or applicator is going. Since the upper part of the tube is somewhat shelved with cartilage the catheter or appli-

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cator should be worked up to this part of the tube and if you are to have any success in passing a bougie it will be through this part. A previous application of 5 per cent cocaine should be applied to the opening of the tube, this helping to shrink the tissue and make the process less painful.

Sometimes in cases where a Yankauer steel applicator armed with cotton cannot be passed after a few attempts; the passage of a celluloid bougie may be easily accomplished and if left in place a few minutes can be followed by the above applicators. The first cotton wound applicator should be saturated with 5 per cent cocaine and slowly passed through the tube. If any obstruction is felt one must not exert too much pressure, but wait a few seconds and give the cocaine a chance to constrict the obstructing element. If pressure is to be made a steady but not forcible one should be used. One can easily feel the applicator pass the isthmus and many patients complain of dizziness and may have a few nystagmoid movements when the middle ear is reached. It is then time to withdraw the applicator.

After the tube has been cocainized, silver nitrate solution or solutions of glycerine, iodine and potassium iodide applied. The installations of medicine may or may not be followed by inflation, but this may help to carry medicants into the middle ear and thereby help to obtain a desired result. But the question that now arises is to our ability to get the medicine on the proper part of the lining membrane. In passing cotton wound applicators the fluid may be squeezed off in passing through the catheter or in the first part of the Eustachian tube. To overcome this the medicant may be placed in lanoline, or gum acacia as a base and using the celluloid bougie. By using this method the proper sized bougie can be easily picked while the size of a piece of cotton on an applicator may vary greatly and cause some hindrance to passage through the tube.

How often and how long are these treatments to be continued will depend entirely upon the condition found in each case. Some patients tolerate treating this way with but a couple of days interval and some may have to wait a week before again able to stand any treatment. If one finds the tube allows the passage of bougies very readily treatment can be carried on after several days interval or until you are satisfied that the tubal membrane is responding to treatment and by statements of the patient, as to any increase in hearing or decrease in the tinnitus which is often present. Then a week's interval between treatment for several months, with a final drop to a treatment once a month or every two months but

always requesting the patient to return when he can notice a change for the worse.

If the tube is constricted and hard to pass a bougie through, a little longer intervals between treatment at the start are not so hard on the patient and the soreness has time to wear off. After the tube is more patent, treatments may be given more frequent, until some improvement is seen, and then, gradually lessened.

Patients troubled with deafness and tinnitus are very anxious for good results and want to know how long it will take. One cannot make a statement as to the speed of your results or as to the amount of hearing that can be restored. If one can help retain what hearing some have he has accomplished something.

Lately the osteopaths have been obtaining some seemingly good results by massage of the pharyngeal end of the tube and the adjacent tissue as well as massaging the external surface of the neck near the angle of the jaw. These results may be due to breaking of adhesions in the Fossa of Rosenmueller or by forcibly dilating the tube, for in many cases when viewed through a naso-pharyngoscope we find the mouth of the tube consisting of a mere slit with two prominent walls. In this type of case forcible dilatation by finger or some suitable olive tipped bougie can be done and give some relief.

Dilatation may be accomplished by use of graduated celluloid or whale bone bougies but when one reaches the isthmus where the diameter is small, and not allow passage, but little results are obtained beyond this. Very often tubal stenosis will yield to the plain bougie, but some cases of hyperplasia and hypertrophy relapse to their former condition and the application of silver nitrate by a cotton wound applicator will reduce this swelling.

The practice of medicine in this day and age is that of preventive medicine. The general surgeon and internal medical man are doing their share, but what have we as otologists done to prevent or cure catarrhal deafness. There are thousands of people old and young, who are gradually becoming deaf, and whose earning power and usefulness are lessened in proportion to the deafness.

Discussion

Dr. E. P. Weih, Clinton—"How are we treating the Eustachian tube?" This well chosen subject gives us much food for thought. We must consider the Eustachian tube and the middle ear one because anatomically the one is the upper end of the other and the mucous membrane lining tympanic cavity is directly continuous through the tube with that of the naso-pharynx. In children, it is an established and

generally accepted fact that all acute inflammations of the tube and middle ear are due to nasal and post nasal pathology and the correction of these obstructions must be our first aim in therapy. This also applies to adults and removal of these abnormal nose and throat conditions must be accomplished before we can promise our patients much as to prognosis for good hearing. After the nose and throat pathology has been taken care of we must treat these various conditions of the tube according to the indications given us by the character of the existing process. We have long ago discarded the Politzer type of inflation because of the fact that it does force infected nasal secretions into the tube which is obviously the thing to be avoided. To avoid aggravation of our infective process we always use a catheter. Ten per cent solution of cocaine is applied to lower part of nasal fossae and to posterior nares using care that we apply it directly to the opening of the tube and then waiting sufficiently long to allow shrinkage of the mucosa. Our Eustachian tube catheters should be of various sizes and shapes, they should be made of soft metal so that they can be sterilized by boiling. Always use as large a catheter as the configuration of the nose and nasopharynx will allow, for the following reasons: first it will fit into the mouth of the tube better and do less damage to the mucosa; second the air pressure can be better controlled; third while using cotton wound applicators our solution will not be squeezed off while passing through the catheter. The air used in inflations should always be heated to body temperature and in acute conditions should be as hot as patient will allow its use. For local applications to lining membrane of the tube we prefer to use silver nitrate beginning with a weak solution and rapidly increasing its strength to no stronger than 5 per cent, as stronger solutions are caustic to the superficial cells. The object being the astringent and later the stimulating effect to the mucosa. To properly catheterize and treat a Eustachian tube requires much practice and large experience. One reason why the treatment of ear diseases has justly received such a black eye by the laity is that the numerous doctors in this section of the country who have taken only a few weeks post graduate course, have on hand but very few catheters which are usually of hard rubber and small in size, also they rely upon the Politzer method of inflation.

An Appreciative Notice

The April number of the Journal of the Iowa State Medical Society contains an interesting account of the meeting here recently of the Iowa Society of Clinical Medicine to which reference was made in the Herald at the time. The account in the medical journal, however, is so interesting and contains such appreciative words regarding the Grinnell doctors and the Community Hospital that it is here printed in full.—Herald, Grinnell.

TREATMENT OF THE EUSTACHIAN TUBE AND MIDDLE EAR*

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In a consideration of the treatment of the Eustachian tube and middle ear, we must consider the mucous membrane of the nose and throat. In this climate—perhaps in any other, there are a very few people who do not suffer more than less, from what is generally termed catarrh. We are all of us more or less affected by inflammatory changes in the mucous membrane lining, the nose, post nasal space and throat, and every specialist sees more or less involvement of the ears as a result. How one can definitely differentiate what is termed in the texts as idiopathic middle ear cases, I can not understand, because I do not believe the throat exists that has not at some time been inflamed, and most of us, most of the time.

This inflammatory condition of the mucous membrane and deeper structures, which seems to me to really be more natural than unnatural, certainly must predispose to the affections of the tubes leading to the ears and later to an involvement of the middle ear, including the little bones and their attachments.

It is this condition that I wish to discuss. The treatment of the inflammatory conditions of the membranes within the tube and middle ear. We do not fail to treat these conditions in the nose and throat, in fact do a large general business in this particular field, but I believe we generally content ourselves with nose and throat treatments for the tubes and ears. I do not offer this paper as a solution of the problem, only an attribute help, and from which I have derived many good results.

It has always seemed to me that if medicine, applied to the membranes of the nose and throat would give relief there, it ought to do the same in the tubes and ears, so I have been treating the tubes and middle ear for several years by medical application with good results.

For years, ears have been treated by passing bougies of whale bone or celluloid and following with inflation of air. Perhaps this was the easiest way, and in some cases it gave relief. However, I believe there is a better way to gain the same results, and generally much better results.

The passing of bougies I believe to be injurious to the tube. It will open it, and tear down the adhesions, but this is not an aid, it is a detriment. It injures the tender mucous membrane, often

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tears it, and adds nothing that will promote repair, destroy germs, or increase or decrease congestion of the parts.

Now on the other hand, these tubes may be opened in such a way as not to injure the membranes. The slight adhesions being broken up by contraction of the walls themselves. The membranes may be reduced from a swollen condition to a normal condition. The tubes made normal in lumen and the membranes treated with any solution you desire to use in the nose and throat, and the middle ears inflated if you wish without danger to the surrounding tissue, and even medicine put within the mid-ear cavity.

My method of procedure may be of interest, and I am presenting it at this time. This is not a new method, nor is it mine, but I do not believe it is used generally by the specialists nor as much as it should be, likewise, I am sure if it were used more, it would give good results, as in my hands. The method to which I refer, is from Dr. Yankhauer of New York.

Twisting onto the end of wires devised by Dr. Yankhauer small cotton pledgets, dipping into adrenalin and adding to this a few flakes of cocaine. This passes through the Eustachian catheter the same as a bougie, this if made very small, hardly larger in caliber than the wire itself will pass through the tube without much pain, and I believe, properly prepared, with no danger to the membranes, the cocaine and adrenalin doing the rest in shrinking the tissues and opening the tube. Then in one-half minute or so, the wire is removed, and another applicator inserted on which has been twisted a pledget of cotton, saturated with any medication that one wishes to apply to the tubes. This may remain in the tube as long as you desire. Now with the tube open to its full capacity air may be blown in, or even medicine, through an oil silk tube made for that purpose, as suggested by Dr. Yankhauer.

I wish to say, that by this treatment using argyrol, dionin, iodine, etc., I have as yet never had an abscessed ear. The drum will get red and there is some local reaction, but that is what I want. The doctor has to use good judgment in the amount of medicine he uses, in the size of applicators, etc., and I will say that experience is very helpful, as one must be very careful that the cotton pledget is not too large and the end is well protected.

Use of very flexible wire with a cotton protection almost certainly precludes the possibility of false openings, that are often made with the stiff

fer bougies. This method of treatment makes the treating of the middle ear, and the small bones and their articulations much easier.

I wish at this time to present a very interesting case that was treated in this way, and a very beneficial result obtained.

A young woman came to me who had not heard very well for a great many years. Her difficult hearing dates back to when she was a young girl, and treatments were begun then. I take it, her ears were massaged, inflated and later bougies used.

For the past twelve or fifteen years her ears have been treated quite regularly without improvement, gradually getting a bit worse, until she could only hear loud conversation and funneling her ear. Bone conduction better than air. Drum shows marked retraction and adhesions.

We put this case on iodine of increasing doses for two weeks. Then she came to my office, and I soaked her external ear with H. per O. for one-half to an hour. Then dilated the Eustachian tube, and by means of a Yankhauer treatment tube and syringe put about one minim of five per cent dionin into the middle ear. When the reaction was at its height, as near as I could determine, I used strong suction and drew the drum out as much as the patient could stand, in fact hurting her a great deal. The patient then went home, and on her way home experienced a great deal of pain from noises. When she got home she had to put cotton in her ears because of the pain occasioned by some one playing the piano.

She now hears my voice at twelve to fifteen feet in left ear. She attends church and the theater, grand opera, and generally has no trouble at all. She says she hears as well as any one, but that is not quite true.

Examining the drum, it now has no areas of retraction, and I believe that this patient has received a great permanent result being over two years since the work was done. The patient has had several head colds, and has not seemed to suffer from them. The ears are not so good during a bad cold, but seem to clear up as the cold disappears.

The right and left drum heads looked about the same when I first saw them, very marked retraction. A hole pulled back into the middle ear that a buck shot would set in. After the treatment the left drum shows no such retraction. The drum looking very normal while the right still retains its depression.

It is my intention to again some day, try and get a better result in the right ear.

THE USE OF X-RAYS AND RADIUM IN THE TREATMENT OF CERTAIN NON-MALIGNANT CONDITIONS*

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The physiological action of x-rays and radium is, for practical purposes, the same. In small doses, they are stimulating to all the elements of the healthy skin, and as the dose is increased, they produce in turn, irritation, inhibition of growth, inflammation, and finally necrosis. The rays have a selective action on differentiated cells, such as those composing the glands, hair follicles, and blood-vessels, which may be destroyed, or inhibited in their growth, by doses small enough merely to be stimulating to ordinary epithelial cells. This peculiar sensitiveness to radiation on the part of differentiated cells is well illustrated by the ease with which small doses of x-rays or radium will destroy the virility of spermatozoa, the most highly specialized epithelial cells known. Diseased cells, and cells of the embryonal type, are also less resistant to the inhibitory and destructive action of radiation. It is upon this principle, the so-called "selective action" of x-rays and radium, which would be better described as the variable resistance of different types of cells and tissues to radiation, that all roentgen and radium therapy is based. It must always be remembered that the limit of dosage is what the skin will bear, and where the structures to be influenced are situated at too great a distance under the skin to permit a sufficient dose to be administered through it, the amount must be increased, not by longer exposures, but by cross firing or using several portals of entry.

In the treatment of non-malignant conditions, the most useful properties of x-rays and radium are, the inhibitory action on glandular structures, and the destruction or solution of hyperplastic connective tissue. Inhibition of glands is employed in the treatment of acne, tubercular lymph glands, hyperthyroidism and the leukemias, the destruction of connective tissue hyperplasias in keloid and uterine fibroids.

Acne is essentially a disease of adolescence. The irritation from the developing hairs, combined with the excessive activity of the sebaceous glands, sets up localized areas of simple inflammation, which is papular acne. The pustular form is simply a secondary infection with the ordinary pus-producing bacteria, or with Unna's bacillus, of the retained products of the over active glands and follicles. It is a comparatively simple matter, by the administration of a three-fourths erythema

dose of x-rays once in ten days, to cause a retrogression of the glands and a rapid clearing up of the skin. Many of these patients, when their symptoms have disappeared after six weeks or two months treatment, require light treatments once in three or four months to keep their skins in good condition. One must use care to avoid over-exposure and excessive tanning of the skin and hardening of the papules.

The results from treatment of tuberculous lymph glands by radiation are perhaps more uniformly satisfactory to the operator and the patient than those in any other condition seen by the radio therapist. The youthfulness of the patients, and the desirability of securing a good cosmetic result because of the common location of the glands in the neck, render the avoidance of a disfiguring operation especially gratifying. Secondary infection of tuberculous glands is not, in my opinion, a contra-indication to their radiation, but when they have broken down they should be incised and drained. Thick filters should always be used in the treatment of this disease.

The treatment of the leukemias by radiation is, of course, palliative—as is any other method of treatment. When treatment is first instituted there is a prompt reduction of the leucocyte count and improvement in the patient's general health. Sooner or later, however, the symptoms recur and the patient finally succumbs. With each recurrence, the difficulty of restoring the blood picture to anything like normal is increased. Dr. Bundy Allen reports that after he is no longer able to secure improvement with roentgen therapy, the application of radium produces a decided remission of the symptoms and shrinking of the spleen. Dr. Henry Schmitz of Chicago advises splenectomy after the first few series of treatments have been given, and while the spleen is not much larger than normal. It goes without saying that the treatment should be controlled by monthly blood examinations and should be used in conjunction with medical treatment. At the present time I have one patient under observation who was first treated with x-rays for splenic leukemia eight years ago. She is comfortable and well and requires only a moderate dose of x-rays about once in three months. Another patient referred about a year ago with a spleen almost filling the abdomen, and a white cell count of 235,000 required ten series of heavily filtered intensive x-ray treatments to reduce the spleen to normal size, and the white cell count to 25,000. I feel that this patient should have a splenectomy, which she refuses, as she keeps feeling well by taking a treatment every three months.

*Read before the Tama County Medical Society, April 8, 1920.

When a case of hyperthyroidism presents itself, the question as to the kind of treatment best employed, whether medical, radiological or surgical, is one which requires careful study of many factors, and the exercise of considerable judgment. When medical treatment is employed, the physician must realize the importance of rest. Operations must not be performed too late, or at the height of the toxic symptoms. An advanced case of hyperthyroidism is inoperable unless the patient improves under rest in bed for a few days. On the other hand, the radiologist who treats all forms of enlarged thyroid by radiation, regardless of the type, is just as injudicious as the surgeon who operates on a case without making a careful study of the patient. X-rays have been used in the treatment of thyroid disease almost since their discovery. In the early years the results were not satisfactory. When sufficient amounts of radiation were administered to cause improvement in the symptoms, there was often scarring and atrophy of the skin. With the introduction of more powerful apparatus, and the development of a proper technique of filtration, the danger of burns was reduced to a minimum and it became comparatively easy to influence the secretion and size of the gland. The action of x-rays and radium as used in hyperthyroidism is essentially the same as surgery. They produce, not only a diminution in the internal secretion, but an actual destruction of glandular tissue. Their use in thyroid disease is major radiological work, and should not be attempted unless the physician is familiar with the disease, as well as the technique of administration and the physiological action of the ray, on the thyroid gland.

Contra indications for the use of x-rays and radium are, colloid, cystic, fibrous or nodular goiter, goiter causing marked pressure without toxic symptoms, and intra thoracic goiters.

To summarize, Boggs of Pittsburg says: "All forms of exophthalmic goiter derive benefit from both forms of radiation, and the symptoms can be relieved or the patient symptomatically cured in 80 per cent of the cases unless the disease is too far advanced.

X-rays are useful in reducing the over activity of the thyroid gland in exophthalmic goiter before operation, where the tumor is large and the symptoms are so intense as to make operation dangerous. When given as an ante-operative procedure, it is advisable to operate within four to six weeks, before fibrous tissue formation has taken place.

In relapses after operation for exophthalmic goiter, radiation should always be employed after a careful study of the ductless glands has been

made, rather than the contemplation of a second operation."

The painlessness of the treatment, the avoidance of surgical shock, and the freedom from fear of operation, make this treatment especially gratifying to the extremely nervous persons with this disease. Improvement should follow the first month's treatment, and if such improvement does not take place, other measures should be instituted at once.

Success in the treatment of keloid is largely a matter of technique. It is necessary to cause destruction and absorption of the excessive connective tissue. In small keloids this is easily done by radium because of the extremely short wave length of the Gamma rays. When large surfaces are involved, and it is necessary to employ x-rays, the highest voltages and thickest filters must be used to reduce to a minimum the irritating soft rays. In one of my early cases, with a large keloid following a burn, I gave eight series of lightly filtered rays without any effect except stopping the spread of the growth, and reddening the skin. About that time I began to realize that the condition was more than a skin disease, and after three series of heavily filtered hard rays, given according to the technique developed by Dr. A. F. Tyler of Omaha, the scar tissue melted away leaving the skin soft and pliable and free from pain or tenderness.

Radiotherapy in the treatment of uterine fibroids and hemorrhage due to fibrosis, has not attained the popularity in this country that it has in Europe, nor has it been used as much as the good results of the method seem to warrant. Two views of the action of radiation in these conditions are held. The first, that a "dry castration" is produced by the inhibitory action of the rays on the ovaries, the second that there is a true destructive action of the hyperplastic connective tissue. Without going into the arguments for or against either theory, it would seem that the second is probably the correct one. Dr. Be'clere, of Paris reports a series of 338 uterine fibro-myomata, all large enough to project above the level of the symphysis pubis, in which only four times did radiotherapy fail to save the patient from surgical intervention. This is a remarkable achievement, and indicates to my mind, that the cases were selected with extreme care. Schmitz treated eighty-three cases with x-rays and radium combined, with six failures. The objection to this method of treatment of uterine fibroids is that the tumor may undergo malignant degeneration. It is, of course, impossible for a fibroid to degenerate into a carcinoma. It may degenerate into sarcoma,

and does in less than one per cent of the cases. The theory of malignant degeneration loses weight when we remember that the operative mortality in hysterectomy is at least 2 per cent and more often 5 per cent, that 87½ per cent of sarcomatous growths recur after surgical removal, and that there is no case on record of malignant degeneration of a fibroid following x-ray therapy. Patients over forty years of age do best under radiotherapy. The difficulty of producing a permanent amenorrhea decreases with the age of the patient. The intra-mural type of fibroids responds most readily to the treatment, and the sub-serous cases are usually symptomatically cured, without complete absorption of the tumor. The sub-mucous type is best treated by operation. The presence of uterine polypi or inflammatory disease of the adnexa is a positive contraindication to radiotherapy, as is also, a co-existent carcinoma. There should be a marked improvement in the patient's symptoms at the end of the first month of treatment. If improvement does not occur, there has been an error in the diagnosis, insufficient treatment has been given, or there are complications present such as polypi, or pyosalpinx. Patients who have become so weak and anemic from hemorrhage as to render them doubtful subjects for operation, should have the benefit of x-ray treatment, and in no case should surgery be attempted until the hemoglobin has been raised to at least 65 or 70 per cent.

There are several other conditions which can be satisfactorily treated by radiation, among them being lupus vulgaris, lupus erythematosus, actinomycosis, ring worm, psoriasis, angioma, and naevus. Over-enthusiastic individuals have advocated radiotherapy in other conditions too numerous to mention. Such misguided enthusiasm is due, largely, to ignorance of the action of these agents. Because x-rays will cure tuberculous lymph-nodes, it does not follow that they will favorably influence a tubercular kidney, the reason being that in the first instance it is only necessary to inhibit the action of the glands. If this were done with the kidney, it would be as useless as though it had been surgically removed.

X-rays and radium are powerful agents for good or evil. The development of modern apparatus, especially the Coolidge tube, and the employment of scientific methods of measurement, have rendered x-ray dosage accurate and safe. The convenience of application makes radium particularly suitable to cavities. The action of the two agents is so nearly the same that x-rays are to be preferred in other instances because of

their more intense and more diffuse effect. It has been estimated that to produce the same effect at the same distance in the same time as a Coolidge tube, it would be necessary to use 92 grams of radium, at a cost of eleven million dollars.

Finally, several non-malignant conditions can be materially benefitted by radiotherapy. The methods require a certain amount of exactness and attention to details of technique, and must be employed with an intelligent idea of the pathology of the conditions to be treated, as well as the physiological action of the agents used.

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ACUTE APPENDICITIS IN CHILDREN*

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As the general practitioner or the surgeon reviews the cases of appendicitis he has attended or operated upon, he will be impressed with the fact that appendicitis in children occurs very much less frequently than in adults, especially young adults and the ratio diminishes as the age of the child decreases. In adults, the diagnosis is easily made and the percentage of clean cases coming to operation is gradually increasing and peritonitis is the exception rather than the rule, while in children clean cases are unusual.

Appendicitis in children is a dangerous and deceptive condition as the stage of the disease is difficult to determine. Children are poor subjects for acute septic infection of the peritoneum. The appendix is often in a high position and adhesions are not readily formed so that an early diagnosis should be made and prompt surgical treatment applied.

In a series of 600 cases operated upon, 509 were in adults or children over fifteen years of age. Of these, 95 or 18.67 per cent were pus cases; ninety-one were in children under fifteen years of age, and of this number only eight were under five years of age. In forty-three cases, or 47 per cent of these, we found a ruptured or gangrenous appendix. In the 509 cases in adults or children above fifteen years of age, there were two deaths, both abscess cases, one a girl of seventeen and the other a girl of eighteen years, while in the children under fifteen years, there were eight deaths and five of these in children under four years; one, a boy of eighteen months, the son of a physician and who had been sick for

*Read at Clear Lake meeting Austin Flint-Cedar Valley Medical Society, July 15, 1920.

a week, had a general peritonitis with no attempt at walling off. Two cases in children of two years, each sick for three days, had ruptured appendices with no attempt at walling off. Two were in children of three and four years respectively, one of six days duration with an abscess in the pelvis and another which had burrowed up behind the cecum to the region of the right kidney. The other case had a very large retrocecal abscess. In three of the cases, we were able to remove the appendix; in two, we were not, simply drained. I mention these cases to show to what an extreme condition many of these are allowed to go before coming to operation.

John B. Deaver in the *Journal of the A. M. A.* has reported 500 patients operated on under fifteen years of age, in which he shows that of the acute cases which numbered 403,343 or 85 per cent had abscess formation. Of the 500 cases, 8 per cent were in children under five years of age. This seems rather a high percentage. McCosh in a series of 1000 cases, has a percentage of only 1.7 per cent under the same age. Alex Mitchell (*British Journal Children's Diseases* in 1912) contributes a study of forty consecutive cases of appendicitis in children in which the condition was acute and the disease had extended beyond the peritoneal covering of the appendix, resulting in gangrene, peritonitis, or pus formation. In nine cases, a large walled off abscess was found, three of the cases died and five of the remaining six had secondary operations for the removal of the appendix. In five cases, the abscess was localized, and the peritoneum had to be opened to reach the abscess. One of the cases died. In the remaining twenty-six cases, no definite adhesions walled off the appendicular area. In eighteen of these cases, there was a diffuse peritonitis and gangrenous appendix in all but one. Six of these cases died. The remaining group includes eight cases which showed a gangrenous appendix, but little or no peritonitis. All these recovered. In this series of forty cases, the mortality was 25 per cent. On the other hand, in all the cases operated on over the same period of two years, in the acute stage, before the infection had visibly extended beyond the peritoneum of the appendix, no life was lost.

There are several factors which enter into the results in these cases: First, in many cases, all the home remedies are tried before a physician is called; second, procrastination on the part of the parents and occasionally on the part of the physician; third, early rupture of the appendix in children; fourth, partial or no walling off of appendix before rupture; fifth, the lower resistance

and inability of a child to stand infection in the peritoneal cavity.

The difficulty in making a positive diagnosis in children and especially those under ten years of age is due in large part, to the inability to get any clinical history and in many cases to the vagueness of the symptoms. Then after the diagnosis is made, there is sometimes a tendency to yield to the admonition of parents and delay operating. Many parents would themselves submit to an operation rather than consent to one on their child. This is unfair and unjust to the child and does not give it a fair chance. The sooner parents and physicians as well, realize the dangers of delay in these cases, the lower the mortality.

The symptoms are far more vague and uncertain than in the adult. The most reliable one and the one present in nearly all cases is localized muscle rigidity, a spastic right rectus. This symptom is beyond the child's control and in nearly every case can be elicited. Pain, while it must be respected, cannot be relied upon. Vomiting and colic together with the pain are corroborative, but not positive. Constipation and fever are symptoms usually present. Murphy placed special stress on temperature elevation but if we are to diagnose the cases early, we will see some of the worst before there is enough absorption to give an elevation of temperature.

The early diagnosis then must be based largely upon the rigidity of the recti-muscles and especially the right rectus, restlessness, vomiting and quite often a flexion of the thigh on the abdomen. If not seen until the infection has extended beyond the peritoneal coat of the appendix, we have the elevation of temperature increased, leucocyte count and perhaps localized pain and tenderness. The latter two however are of little diagnostic value in a young child for they are seldom able to locate an abdominal pain and the whole abdomen is so frequently tender. In every case of a child suffering from an abdominal disorder, great pains should be taken in the examination. Intussusception is occasionally mistaken for appendicitis but the pain here comes on more suddenly. There is an absence of rigidity, no increase in the leucocyte count, the presence of blood in the stools and the presence of the sausage shaped tumor, clears the diagnosis.

Ordinary colics are distinguished by the absence of localized tenderness and fever, by their short duration and by the fact that the pain is less intense.

Appendicitis and intussusception are two of the most serious acute conditions in a child's abdomen and we should constantly have them in mind

when searching for the cause of any abdominal disturbance. The treatment of appendicitis is surgical and the earlier the diagnosis is made, the more efficient the treatment. I do not believe there should be any conservatism in children but that every case should be operated upon as soon as diagnosed.

If there is doubt as to the diagnosis, stop all nourishment by mouth, flush the bowels with enemas, supply the system with fluids by the Murphy drip and if there is elevation of temperature, apply the ice bag to the abdomen. Above all, avoid giving any cathartics by mouth. The pernicious habit of giving castor oil, etc., in every abdominal disturbance in children, has been the cause, I believe, of many ruptured appendices.

After the operation, the treatment is much the same as that in an adult, whether or not the appendix is ruptured.

THE TREATMENT OF TUBERCULOSIS, BASED UPON ITS CLINICAL CAUSE

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Before entering upon the details embodied in the treatment of tuberculosis, it would be well to consider the precise nature of the disease as far as our present state of knowledge will permit. A good working knowledge in this phase of the study is essential to the intelligent management and treatment of a case, and I would even venture to state that many of our failures with arrestable cases are due to our lack of detailed knowledge in this particular department.

It is needless to state that the tubercle bacillus is the essential cause of tuberculosis; or that we can have no tuberculosis without the presence of the tubercle bacillus. We can, though, have the bacillus in relatively large numbers, without having, what is clinically recognized as tuberculosis.

It has been shown that 86 per cent of all children, up to the age of fifteen years, react to one or more of the various tuberculin tests. The conclusion drawn is that at some period of their lives they have had an infection, sufficiently extensive or advanced, to produce anti-bodies in their tissues and blood-stream; but nothing like 86 per cent of adults break down with tuberculosis.

The opinion of students regarding the age incidence of tuberculosis, is, at the present day, divided. One large and substantial group claims that every adult has been infected, and that the infection occurred before the twentieth year of life, and that when an adult develops clinical tuberculosis, it was not due to a new infection, but

merely to activity and spread from an old focus of infection. A smaller group of students claims that adults can, and do, develop clinical tuberculosis from newly acquired infection; but no one yet, to my knowledge, has presented an authenticated instance of an attendant in a sanatorium developing the disease from association with tuberculous patients. Attendants of sanatoria occasionally do break down with the disease, but the number is small, and they either give a decidedly tuberculous history, or admit that they had weak lungs, and sought employment in the sanatorium as a means of building up their health. The truth probably is that both of these views are correct to a certain degree. Some evidence can be adduced to show that occasionally an adult does develop clinical tuberculosis as a result of recent infection, but in the majority of cases it occurs only after a prolonged, intimate exposure, such as that incidental to the relationship between husband and wife, where one or the other has an active and open lesion.

If one study the age incidence of tuberculosis, one will observe that the most fruitful period of adult life, between the ages of eighteen and forty years, is the one which yields the greatest number of victims, and incidentally, this is just the period of life in which both men and women strive to attain what they consider success; and in so doing, lose sight of the fact that they are only human, and not machines. In childhood, our habits, in almost every respect, are guided and shaped by the wisdom of elders, who know from experience what is better for us: as middle life approaches, we naturally slow up and become more sedative and regular in our habits, but in between these two periods we find the race, full of energy and vigor, spurred onward to their greatest physical and mental effort in their desire for pleasure, or to satisfy a thousand ambitions. It is at this period of life that action and reaction gradually conspire to produce a vicious circle, lowering vitality and resistance, undermining the nutrition, and leaving the individual an easy victim to the foe lurking within. To give an illustration of this:

A young woman, just before, or at maturity, becoming more and more her own guardian, is employed eight to ten hours per day in a department store, very often working under artificial lighting and ventilating systems. Having planned for an evening's entertainment, she hurries home, hurries through a meal, dresses, goes out and returns late at night after a strenuous evening of dancing. Next morning she is tired from over-exertion and insufficient sleep. Remaining in bed

until the latest possible moment, she arises hurriedly, has no appetite, snatches a cup of coffee and a roll, rushes off to business and watches the clock all day feeling that each hour is an age. From tiredness and bad habits, the bowels become constipated. She probably drinks very little water, which, with the constipation, results in faulty elimination. The appetite gradually falls off, and she does not care to eat. In winter time she probably sleeps in a poorly ventilated room, and partakes of very little out-door recreation. Habits, such as these, persisted in, gradually produce a state of lowered nutrition and resistance. With the lowered resistance thus produced, she falls an easy victim to the disease.

It is impossible to note all of the details which might conspire to produce lowered nutrition, but such combination of bad habits as the above is to be found in the personal history of most patients. The lowered nutrition may be due to over-work and anxiety extending over a long period of time, or it may be due to other debilitating influences, or to other diseases such as pneumonia, typhoid fever, grippe, repeated bad colds and the conditions of living which predispose one to colds.

The great weight of medical opinion today is, that, in almost every case of an adult developing clinical tuberculosis, the disease was already present somewhere in the glands or lungs; and that the present illness or breakdown was simply an extension over a new area. Grant that this is true, then, why is it that a number of individuals will break down and become actively tuberculous, while an equal, or greater number, positive to the tuberculin reaction, remain in good health? In the answer to this question will be found the principles upon which the modern treatment of tuberculosis, in practically all of its forms, is founded.

The rational treatment of any disease, especially a chronic one, depends upon the various factors concerned in causing that disease. In tuberculosis, the prime factor is the tubercle bacillus; but it is by no means the only factor, or the greatest factor, in returning the patient to a good degree of health. We know that the organism is present and alive during the whole course of our active treatment. We know that it is present and alive at the time when we classify the patient as arrested, or apparently arrested. We also know that at this time, if we have not taught the patient something that will prevent him from returning to his former habits, we can almost assuredly look for a return of his symptoms, which means renewed activity of the disease.

Pathologically, tuberculosis is a disease caused by the tubercle bacillus. Clinically, it is a disease

of mal-nutrition caused by bad habits and bad environment. By bad habits, I mean living in opposition to nature's laws, which results in mal-nutrition. Someone has well said that "every case of tuberculosis represents one or more of nature's laws broken." The patient himself may have been the prime offender, or an innocent person may have been the victim of the offences of others; nevertheless, fixing the blame does not materially alter the treatment of the disease.

The question of mal-nutrition plays such an important part in the treatment of tuberculosis, that no uniform success can be attained without a clear understanding of how such a condition is brought about. We know that practically every actively tuberculous patient is under-nourished, and that before improvement can begin, his nutrition must be brought up to, and maintained at, the highest possible standard.

Just here, the question may be raised as to whether tuberculosis is due to malnutrition, or the malnutrition due to tuberculosis; but this question could be debated almost indefinitely without a definite conclusion being reached. A well nourished child is very likely to develop an infection if exposed continuously over a prolonged period, and, as a result, become under-nourished; but in adult life, with an infection already present, if the habits and environment are such as to produce under-nutrition, thus letting down the bars of resistance, the infection is prone to become active and to spread, producing clinical tuberculosis.

Treatment—The actual treatment of tuberculosis should begin the moment the diagnosis is made, by frankly informing the patient of his condition, and by causing him clearly to understand that at least 50 per cent of the success, will depend upon the precise and conscientious manner in which he carries out the details of the treatment. Success depends upon controlling the patient's life and habits, twenty-four hours a day, and every day. His thoughts, as well as his actions, should be controlled. I do not wish to be understood as advocating Christian Science, but it is difficult to over-estimate the importance of directing the patient's thoughts into the proper channels. As recovery in the last analysis is practically a matter of nutrition, what manner of success can ultimately be expected where the patient thinks that he is not seriously ill, or believes that he is too ill to be of any further use to either himself or others? In neither case will he carry out the details of treatment which mean increased nutrition. Start out by informing him frankly and with decision, that he has tuberculosis, and that he

can get well; but do not forget to state with emphasis: "If you are willing to carry out, conscientiously, your part. Tuberculosis is the most favorable of all chronic diseases, so that not the worst, by any means, has happened to you. Heart disease, cancer, Bright's disease, diabetes and brain diseases number their incurable victims by the thousands; but tuberculosis, in the early stage, (and yours has not yet passed the early stage) numbers its cures by the thousand. Getting well, is a business in which we are equal partners; each, with his own definite work to do; and no one but yourself can do your part. It is the most serious business of your life, because, upon the outcome depends your future happiness and success. It requires courage and sacrifice; but, if you are willing to commence and maintain your efforts, success will surely be yours. Remember one thing: 'You will feel well, long before you are well; but your efforts must be persisted in until firm healing has taken place'."

If some such preliminary lecture is used, and in such a way as to carry conviction in every word, the doctor will find that he has a reassured patient to deal with; a patient that is eager to carry out his part of the work, and anxious to know just how it is to be done.

The modern treatment of tuberculosis resolves itself into several distinct factors, precisely as does the clinical cause of the disease. These are as follows; their importance coinciding with the order in which they are named:

1. Rest and exercise.
2. Good food.
3. Good air.
4. Elimination.
5. Drugs, serums and vaccines.

Rest—The patient with afternoon or evening rise of temperature, accelerated pulse and underweight, should be ordered to bed and to remain there until most, or all, of his toxic symptoms have cleared up. He should be taught that the more completely he remains quietly in bed, and be contented to do so, the sooner he will be able to be out and on limited exercise. It is not difficult to induce a patient to do this, if the object sought is properly explained to him. It is during this time that the foundation to a successful treatment is laid, and the doctor who takes pains during the first few weeks, will have few difficulties later on; and vice versa.

When we ask a patient to rest, we seek certain results which can be attained in no other way. Most important of these, are:

(A) To prevent the toxic substances from leaving their source, and finding their way into the blood-

stream, to be distributed to all tissues of the body, there exerting toxic effects.

(B) To conserve the patient's already lowered strength and vitality, and to prevent him from using his reserve.

(C) To give digestion and assimilation first call upon the vital energy, and thus facilitate good nutrition.

(D) To give rest to the injured part.

Of all the factors concerned in the arrest of tuberculosis, rest, is, without doubt, the most important; as I will try to show.

It is well to recall that in the early stages of tuberculosis, the patient does not suffer, primarily, because part of his lung area is not functioning. We all have, at least, 100 per cent more lung area than is needed for ordinary purposes of life. He suffers because a virulent poison, to which he is hyper-sensitive is constantly reaching his blood-stream, and interfering with the functions of every organ of his body. The fever, rapid pulse, weakness, tiredness, lack of endurance, restlessness, nervousness, insomnia, lack of appetite, impaired digestion, loss of weight, night sweats and many other symptoms are mostly due to the toxins which reach the circulation from the diseased areas. If the doctor can do anything to prevent these toxins from reaching the blood-stream in excessive quantities, he has practically disarmed the tubercle bacillus. The bacillus which cannot get his poisons out and distributed throughout the circulation, is like a machine gun with no bullets. With the patient at rest, he breathes slower and shallower, thus slowing the lymph circulation of the lungs to a minimum; the lungs are nearer at rest, a surgical principle of great importance; the heart beats slower and less forcibly, sending less blood through the lungs, thus reducing the intensity of the inflammatory process. Under these conditions, the toxins are prevented from getting into the blood-stream in excessive quantities, and are retained at their source. A double result is here accomplished. First, the patient's tissues are, to an appreciable extent, relieved of the intense toxæmia, which results in better functioning of every organ of the body. This means more copious and richer digestive secretions, and increased motility of the digestive organs, resulting in increased nutrition. There is better elimination, lowered temperature and pulse, increased appetite and a gradually improved general condition. Secondly, the germ, not being able to relieve itself of its toxic products, finds the medium not so favorable for growth and reproduction; so that it gradually becomes attenuated and is slowly crowded out. The conditions favorable to the deposition

of scar-tissue, are brought about, thus locking the germ up in a fibrous capsule, through which nourishment passes in, and toxins out, with difficulty.

Food—Having got the patient as nearly at rest as possible, the next factor demanding attention in detail, is the question of food.

It is important to remember that the essential object for which we are striving, is to bring the nutrition up to the highest possible standard. To do this, the patient must eat a sufficient quantity, and quality, of food per day, whether he has the appetite or not. Rest, is necessary to develop both the desire for, and the ability to digest and assimilate the required amount of food; and if we fail to induce the patient to take this amount, our treatment falls, practically, to the ground. Begin by impressing upon his mind, that his stomach is his servant; not his master; and even though he has no appetite, or the eating of a meal cause some distress, if he will take the necessary amount, and kind, masticate it thoroughly, not washing it down in chunks with liquids, the digestive organs will take care of it, and build it up into tissue and vitality. Defeat has been turned into success in many instances, just by concentrating upon this point alone. Patients will whine that they have no appetite, or that the stomach is weak and cannot take food except in small quantities; but this should be met firmly with the statement that he can, and must, take the food if he expects to get well; and if he does take it, he will get well.

Here is an instance of where the determination and personality of the doctor counts heavily, when the patient lacks will power to do the things that are not quite pleasant. Appetite returns with eating as a manifestation of increasing vitality, and if the doctor can succeed in inducing the patient to rest and eat every day for two or three weeks, he will have carried him over a rough spot, which will make the future quite easy. When the patient is eating heavily, and on enforced rest, it is important to keep the alimentary tract free, by the use of laxatives and an occasional saline purgative. Two free bowel actions a day are necessary. A simple digestive tonic may be given for its psychological tonic effect; but he should not be allowed to pin his faith in this to the exclusion of other vastly more important factors, viz: rest and persistence in eating. He should be instructed how to eat. Meals at 7:30 A. M., 12:30 and 6:00 P. M., thus allowing sufficient time between meals. Do not allow him to sit down to breakfast at 9:00 or 9:30, because a sufficient amount of food cannot be digested between that hour and 6:00 P. M. Patients will

advance a score of arguments as objections to following a rigid routine; but most of these should be met firmly and convincingly with a better argument to the contrary.

The quality of food should next receive attention, and this is quite as important as the quantity. The mistake is being made today, as in the past, of feeding the patient calories, instead of food. The almost exclusively milk and egg cure has passed away, and been discredited by those who have studied the situation more closely. Tuberculosis affects every tissue of the body, which consist of many elements; and good nutrition is not accomplished until these elements are supplied by the diet. With a few exceptions, such as far advanced cases, tuberculosis of the intestine or throat, the nearer a patient can come to a general diet of everything on the table, the better his chances of getting well. The green vegetables, fruit and carbo hydrates are just as important as the fats and proteins. We are trying to get the patient well, so that he can gradually take his proper place in society, and not merely to get him fat. It is not necessary to cram into the patient all that he can possibly contain. He is getting well as fast as he possibly can, who is gaining from one-half to two pounds per week; so that the quantity of food should be governed to a large extent by the gradual gain in weight.

Milk is important as food, by virtue of its large calcium content in a form available to the tissues, as well as for its other constituents; but it is a mistake to feed milk to the exclusion of other foods contained in a general diet. A glass of good milk, with meals, and one glass midway between each meal, is usually sufficient. The milk, to insure proper digestion, should be sipped, or taken in small quantities, between the mouthfuls of food.

Good Air—The third factor in the treatment, is good air. This is placed third in importance, which is contrary to the popular belief that air is the most important. A great deal can be written upon the advantages and disadvantages of different climates and altitudes; but after the evidence is sifted, we find that it is not the particular climate that is of great importance, but the use of the climate. The vast majority of our patients have no choice in the matter, and if they are to get well, they must do so in the climate in which we find them. The disadvantages of sending patients of small means a long distance, greatly outweigh the advantages. Keeping them at home and teaching them to use this climate will prevent many a heartache and calamity. A sleeping porch connected with a bed room, is the first choice in

selecting quarters for the patient; but, if this is not available, a bed room with windows on two sides, allowing a cross ventilation is very good. The room should be selected, so that, in summer, it will get the morning sun and afternoon shade, the reverse during the winter. Freedom from dust, smoke and the noise of traffic, is essential to good air; but these conditions are met a short distance from the business district in most of our Iowa towns and cities.

A few years ago we kept our patients outside (or at least, we tried to) day and night, during the severest zero weather and winds, paying little attention to their comfort or discomfort so long as they received plenty of fresh air. In a large percentage of cases, such a rigid rule is wrong, and often harmful. Much better results will be attained, and the patient be more contented, by instructing him to remain outside as much as possible in calm weather, even though it be quite cold, but on windy days to remain inside, in a well ventilated room. Cold winds blow the heat from the body, and so draw heavily upon the vital energy. The physician should endeavor to utilize all of the advantages of the climate, and to avoid the disadvantages as much as possible.

Patients often have their own ideas regarding breathing; one of which, is breathing deeply. Some of them have the air-cure so deeply rooted in their minds, that they will expand their lungs to the fullest extent, a counted number of times, both morning and evening, hoping by this means, to accelerate their cure. Such a procedure defeats the very object for which we are seeking, viz: Rest to the injured organ. As this occurs quite frequently, the doctor should advise against it as a matter of routine.

Quiet, natural breathing should be advised, and, as the patient improves and is allowed some exercise and light work in gradually increasing amounts, the lung will be called upon gradually for greater expansion and activity, which is all that he should attempt until firm healing is established.

Elimination—Elimination by bowels, kidney and skin is an important factor in the treatment, and one that is often left largely to the patient's own judgment. Man, through bad habits, has gradually arrived at the conclusion that one bowel movement per day is sufficient; but he is the only animal that appears to think so. To maintain good health, at least two evacuations per day are necessary; and this is the more so in a disease, the treatment of which calls for a copious, rich diet, and enforced rest. It is necessary first, to instruct the patient, how to acquire good habits

in this respect, such as going to stool at stated intervals every day; copious water drinking with meals, and between meals, and the selection of a diet containing sufficient residue.

Where artificial stimulation of the bowel is needed, and this is usually the case, Hinkel's pill, morning and evening, or bitter extract of cascara, in small doses three times a day, I have found very useful.

One must not forget that these patients with sluggish bowels, often suffer from a degree of stasis. The patient may have one or two fairly good bowel movements per day, and still suffer from faulty elimination, by reason of the fact that the movement is always anywhere from a few hours to seventy-two hours late; thus permitting putrefaction of the intestinal contents, and absorption of the products thereof.

In cases where this seems to occur, the patient becoming depressed and losing his appetite, I find that a smart dose of epsom salts or Pluto water an hour before breakfast, followed by a glass of hot water and copious water drinking, will usually restore him in a day or so. Copious water drinking should be encouraged, because most of these patients are poor water drinkers, many of them seldom use it as such. It will aid greatly in digestion, which is, as you know, simply a process of reducing solid foods to a solution. It aids greatly in the absorption, especially of fats, and increases the activity of the kidneys and skin; all of which is necessary in aiding nutrition.

To promote elimination from the skin, one or two cleansing baths per week should be advised.

Drugs—It is true that the less drugging a tuberculous patient receives, the better he will get along; for many reasons, chief of which is the long duration of the treatment, and the liability to depend upon them for a cure instead of pinning his faith to a rigid routine of living. A good rule to follow, is to give a drug only where such is clearly indicated. Teach the patient to subdue the cough, much of which is purely bad habit. Then, if a drug is needed, a combination of codiene, gr. $\frac{1}{4}$, dilute hydro-cynic acid, minims 1 to 3, in a drachm of peppermint water, given three or four times per day between meals, and continued for a few days or a week, will usually suffice.

A simple stomachic may be used for a short period for the appetite and digestion, and a soft Bland's pill, containing a small dose of arsenic, during the period of anæmia. A patient who will rest and will follow out his routine conscientiously, will call for very little medication. Any medicine aimed at the direct destruction of the

tubercle bacillus, will fail miserably, and usually do more harm than good.

The busy practitioner will do well to leave serums and vaccines to those specially schooled in their use.

Exercise—There remains to discuss the question of exercise; and it is difficult to lay down any rules that are applicable to most cases. Exercise should be looked upon as a powerful drug, capable of doing great good, or harm, accordingly, as it is properly used or misused. Most cases must be treated strictly on their own merits, but a good rule to follow is to keep the patient pretty well at rest until he has gained his normal weight, and until the temperature has been normal for a week or two, and the pulse under ninety, taken at rest. Exercise should begin by allowing him to come to the table for meals, and walking around the house for a few days before venturing to walk out of doors. He may then start out on a fifteen minutes walk morning and afternoon, this to be taken after complete rest until 10:30 A. M. and 3:30 P. M. He should walk slowly, and when he returns, he should lie down for a little while before coming to his meal. It is at this time, that the patient should be carefully watched, and cautioned against taking more exercise than is allowed; for, if he does, he will probably have a return of his fever and digestive disturbances. A careful record of the temperature and pulse, taken four times a day, between 7:00 A. M., and 8:00 P. M. should be kept, and the exercise increased accordingly as these continue to remain about normal. It should not be increased more than fifteen minutes at a time, and a week to ten days should elapse between the periods of increase. After he is able to take three-fourths of an hour without symptoms, a little light work can be added, which brings into play the muscles of the arms, chest, back and abdomen.

Some difficulty is usually encountered at this stage of the treatment, in holding the patient down to this routine. It is, perhaps, the most critical of the whole treatment, because he usually feels so well that he thinks things are not moving along fast enough; consequently he tries one or two new moves on his own account, each day, until, at the end of a week or two, he is living about as any normal individual would live. Trouble now commences, and he seldom blames himself, but his doctor. This can be avoided by questioning the patient each time that he is visited, regarding his hour of arising in the morning, and retiring in the evening; when he takes his exercise; when he rests, etc., because very few patients are bold enough to deliberately falsify. He

will begin to hedge a little as each question is asked, and finally admit that he wandered off the path, which gives the doctor the opportunity to correct his false steps.

The treatment during convalescence simply resolves itself into a question of managing the patient; of knowing in advance just about what mistakes the patient is likely to make, and continually cautioning him on these points.

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REPORT OF A CASE OF CARDIO-SPASM WITH ENORMOUS DILATATION OF THE ŒSOPHAGUS*

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The first cases of so-called idiopathic dilatation of the Œsophagus were collected by von Ziemssen and Zenker in 1878. In 1904 Mikulicz reported one hundred cases collected from the literature. Since that time Sippy, Lerche and Erdman in this country have reported a number of cases, and in 1908 H. S. Plummer of Rochester wrote a very excellent paper on the subject and reported forty cases of cardio-spasm which he had treated up to that date. Many more cases could be reported at this time, but the diagnostic methods and the treatment have not changed materially since that time. The interest in the subject lies in the fact that cardio-spasm is a condition which the average practitioner seldom sees.

The following is a brief summary of Plummer's work on the subject. The disease has been attributed first, to cardio-spasm; second, to atony of the Œsophagus; third to simultaneous presence of cardio-spasm and paralysis of the vagus; fourth, to congenital disposition; fifth, to primary Œsophagitis, and sixth, to kinking of the hiatus Œsophagi. In all probability the atony seldom occurs. Cardio-spasm may be associated with gross lesions as ulcer or cancer.

The cardia is normally closed and the food is pushed through by the peristalsis of the Œsophagus. After dilatation takes place the bolus of food is carried forward in the usual manner as far as the upper end of the dilatation. At this point the peristaltic contraction ring ceases to exert any direct force on the bolus, but sweeps around it. The food is then propelled by gravity and increased pressure. In the development of cardio-spasm three stages are recognized. In the first stage the peristaltic contraction is sufficient to force the food through the spastic cardia.

*Read before annual assembly, Tri-State District Medical Society, Waterloo, Iowa, October 4, 5, 6, 7, 1920.

This stage is characterized by discomfort, pain, and a choking sensation. Second, the peristaltic force is insufficient and the food is immediately regurgitated. This may be due to the increased cardio-spasm or decreased muscular power of the œsophagus. At first the spasm is periodic, later continuous. At first, there is a hypertrophy of the muscles of the œsophagus and later a stretching. Third, once the œsophagus begins to give away the dilatation is rapid. This stage is characterized by retention of food and its regurgitation at irregular intervals after injestion. The symptom complex is therefore, first, cardio-spasm without food regurgitation; second, cardio-spasm, with immediate regurgitation, and third, cardio-spasm with dilated œsophagus, retention, and irregular regurgitation. After dilatation has taken place the sac never completely empties and the amount of retention may vary from two to sixteen ounces and can be withdrawn twenty-four hours after fasting.

Some of the points in diagnosis are: food regurgitation from the œsophagus and not the stomach; the existence and character of the obstruction at the cardia; the presence or absence of œsophageal dilatation, its shape and size; radiographing of the bismuth in the dilating œsophagus; determination of the size of the dilatation by means of a rubber balloon distended within the œsophagus; and the œsophagoscopic examination.

One of the suggestive symptoms is failure to pass the stomach tube although an olive passes readily into the cardia. Immediate regurgitation of undigested food upon passing the stomach tube is suggestive of dilatation of the œsophagus. One cannot always make a diagnosis by the use of olives because if an olive strikes the cardia at its center it passes very readily through the cardia without offering much resistance. This will distinguish it from an organic stricture.

The old style of treatment such as the use of fluids, non-irritating diet, effervescent drinks, bromides, frequent passage of sounds, is very ineffective. A few cases have been operated upon and the cardia dilated through the gastrostomy wound. This is effective but not necessary. The development of the apparatus for stretching the cardio-spasm by means of hydro-static pressure in a strong, silk bag has made the more radical treatment unnecessary. With such an apparatus it is possible to stretch the cardia enough to paralyze the sphincter without tearing the opening itself. If pressure of 500 m.m. will not accomplish this, pain is disregarded as a guide and dilatation is carried out, gradually increasing the size. In

the cases treated in this way the most gratifying results are reported.

The case which I wish to report is that of T. P. W., age sixty-six, married farmer; weight 142; weight several years ago 172; family history negative. He gave a history of having had trouble in swallowing since he was fourteen years of age. He said that food would stay in his œsophagus several hours and then he would have to spit it out. He gave no history of any trouble before the age of fourteen, except that he was subject to croup. He was taken to one doctor who recommended smoking and this did him some good. A year later he was taken to another doctor who recommended an operation, but his people were poor, and did not favor such a procedure. This continued without treatment for forty years. Seven years ago, he had the flu, and from that time he grew steadily worse in regard to his swallowing. It required enormous pressure to force food into the stomach. He found that he could eat practically a whole meal before swallowing it. It would then be necessary for him to leave the table, throw his arms back, grasp something firmly, take a drink of water, throw his head back and thus, with enormous pressure, force the food into his stomach. It would shoot in with a very audible whistling sound.

The œsophagus, however, was never entirely emptied and every morning he would throw out a large amount of food that had been taken the night before. The patient's appetite was good; he belched practically not at all, but was continually troubled with a large amount of gas which passed out through the bowel. He had no particular distress after eating; he never vomited, but simply regurgitated the food out of the œsophagus, which he was unable to swallow. His bowels were regular; he had a slight brassy cough; no pain; was somewhat nervous and ill-nourished. His general physical condition was fair for a man of his age.

An x-ray examination was made. Upon giving him a bismuth meal it was found that no food passed into his stomach; that the œsophagus was enormously dilated, was narrowed down by a small stricture in the region of the cardia about one inch and a half long and one-eighth of an inch wide. On the first examination we were unable to fill the stomach, but upon attempting to pass the stomach tube, a large amount of undigested food was regurgitated from the œsophagus. Considerably over a quart of residue was thrown out at this attempt. We were also unable to pass the olivary bougie as it seemed to stick in the sac.

The patient was given a spool of silk thread with two bebec shot attached and instructed to swallow the shot and keep the spool of silk in his pocket. After several days the thread had passed down into the intestine far enough so that it could not be pulled back. With perforated olive bougies we followed the silk thread down through the stricture and by increasing the size of the bougies, gradually stretched the stricture. We found, however, that the stricture

would close down immediately after stretching and the patient was given anti-spasmodics for a few days and this treatment continued. Later it was possible to pass the stomach tube along down the thread and into the stomach. After this had been accomplished he was fed through the stomach tube a large amount of milk and cream and given only very soft food and liquids. By this means his general physical condition was improved very greatly. Later, we were able to pass a rubber bag with a silk covering into the narrowing. With ordinary bulb pressure we stretched the stricture enough to give him considerable relief. These stretchings were continued and at the same time, the œsophagus was kept empty and food was introduced into the stomach by means of the stomach tube. The patient's condition improved rapidly and the œsophagus regained its tone somewhat. The analysis of the stomach contents showed a considerably lowered acidity. He was given little diluted hydro-chloric acid to assist in the digestion of his food.

An x-ray examination several months after treatment showed very normal function of the gastro-intestinal tract. The six hour breakfast had advanced to the cæcum; there was no residue in the œsophagus or the stomach. Examination under the fleuroscope showed still some delay in the food passing from the œsophagus into the stomach. He was able to swallow food with very little difficulty, his weight increased, he never regurgitated food, he belched freely, and was thereby relieved of the distressing bowel symptoms.

The bulb pressure apparatus is one that can be made by anybody and will give fairly good results from the start if the dilatation is repeated often. However, by means of the hydro-static dilator which we later obtained and used on this case, it was possible to accomplish more with one or two dilatations than we accomplished with many treatments of the milder type. In the first treatment with the hydro-static apparatus the pressure is ordinarily run up to three or four on the gauge. In this case pressure up to twelve was used. With the second treatment an attempt is made to increase this pressure enough to accomplish the desired results. Even with this apparatus it is sometimes necessary to repeat these dilatations a good many times, and if a recurrence occurs within a year or two the spasm can usually be overcome with one or two treatments.

The second case which I wish to report is a case of a young woman, age twenty-three, who was referred to me by a nose and throat man whom she had consulted with the idea that she had throat trouble. This young woman gave a history of having had difficulty in swallowing for the past two years. She first noticed that food would stick in her throat at times and she could often feel the food as it passed down through the œsophagus. A year ago she became much worse. She consulted several physicians but obtained no relief. Since that time she has been regurgitating small portions of food and liquid immediately after swallowing.

When first examined her trouble had become so severe that she was suffering from a very distressing thirst which she was unable to relieve because of her inability to swallow water. She was in good physical condition and showed no evidence of malnutrition. Under the fleuroscope the barium meal seemed to lag in the œsophagus. Liquids went down fairly easily. Twenty minutes after giving her a motor meal, the œsophagus was still filled with barium and slightly dilated just above the cardia. The stomach tube failed to pass and upon withdrawing it from the œsophagus, some of the meal was regurgitated. The olivary bougies passed with only slight resistance at the cardia, which slight resistance was about fourteen centimeters down from the teeth. The hydrostatic dilating bag was passed but upon filling the bag it was found difficult to hold the dilator in proper position as the inflation seemed to press the bag into the stomach. It has been found that in these early cases where the œsophagus is not much dilated, it is necessary to hold the dilating instrument very firmly against the teeth and not allow it to slip down if one is to accomplish the desired result. Three stretchings were used in the case of this woman, pressure was used up to twelve in the first, fifteen in the second, and twenty in the third, as is shown on the pressure gauge. Since the first stretching she has had no difficulty in swallowing and aside from the little discomfort which she had about forty-eight hours after the treatment, she has had complete relief from the symptoms.

In conclusion I would say that if one is not able to obtain a hydro-static dilator, the bulb-pressure apparatus can be made with just a blood-pressure bulb, a stomach tube, a galvanized telephone wire, and an olivary bougie. The olive is soldered on to the end of the wire. The wire is placed in the lumen of the stomach tube to act as a stilet, and over the olive and attached to the lower end of the stomach tube, is placed the rubber balloon and on the outside of this there is a silk bag or an animal membrane to keep it in shape. This is then pushed into the contracted cardia and as much pressure as the patient can bear is used, repeating this as often as necessary to accomplish results.

Plummer, H. S.—Cardio-spasm. Report of forty cases. *J. Amer. M. A.*, 1908, Vol. 1, No. 7.

Further progress in Treatment of Chronic Cardio-spasm. *G. Gottstein Archive Five.*

Klinische Chirurgie, Berlin. Vol. lxxxvii, No. 3, pp. 497.

Wilson, Hugh—Personal communication.

The most available therapeutic agent in the acute paroxysm of asthma is the original adrenalin chloride solution supplied for many years by Parke, Davis & Co. A hypodermic injection of a few minims of adrenalin solution promptly relaxes the bronchial spasm, supports the heart, stabilizes the vasomotor mechanism, and produces a calm, restful respite from the tumultuous, exhausting efforts of nature to maintain the respiratory function.

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SAFETY FIRST PLEA

It is sometimes said that familiarity breeds contempt. This may be true, but the saying has its limitations and should have an application only to questionable things. The important things in life should escape such an implication, we have in mind now, danger and dangerous conditions. The reasonable and sensible man will never acquire a contempt for danger or dangerous things but will on the contrary, gain in respect for conditions that are dangerous for himself and others.

Employment has always been dangerous even when industry and transportation was conducted in a primitive fashion but in later years, the powerful, complicated and rapidly moving machinery and the corresponding development of transportation has immensely increased the hazard to life and limb. When the casualties of a great industrial or transportation corporation are for a period of years, or even one year, added together they are certainly not pleasant to contemplate.

There was an appeal in this to R. C. Richards, general claim agent of the C. & N. W. Ry. Co., who for twenty years had the story of loss and suffering spread before him. Was there not some way of escape from this horror? The remedy would look on its face simple enough, but in fact involved a most difficult problem; it required the cooperation of so many factors. It was easy enough to pay the bill in money as had been the accepted custom but this did not restore

the individual, his life or his limb, the old domestic relation could not thus be restored, although the world moved on complacently, and the wheels of machinery and transportation revolved. It was said that the ways of providence were inscrutable, but Mr. Richards did not believe this and ten years more of study was the result. Unthinkable problems had to be met and overcome. It required an immense amount of work in checking and studying the records to find the line of cleavage, who and what was responsible; it was a work of great difficulty, a correlation of facts were essential, reason and logic were necessary, the argument must be convincing. After ten years of reviewing and revising, Mr. Richards is able now to lay before the world a mass of statistics of the most impressionable character. The forty years of service entitles this man to a place in public esteem earned but by few great public benefactors. It is not the value of Mr. Richards' services to his company, we are considering, but his services to the public, to the men, women, and children, he has benefited.

Railroads have not always enjoyed the highest public favor. Selfish interests have not always been confined to countries ruled by kings and emperors, we might find some of it even at our own doors.

There are many observed welfare measures scarcely noticed, because not dramatic, which have passed silently so far as public notice is concerned. There are men in industrial and transportation corporations who are not killed, but more or less seriously injured, some so badly that a slight error in treatment they will die, others who may be crippled for life, or whose recovery may be greatly delayed if unskillful treatment is employed. If this is true, and undoubtedly it is, may not the work of surgical treatment be supervised on the same lines of prevention of accidents? Most railways appoint some surgeon in whom they have confidence as the chief who coordinates the surgical work and others who serve in an advisory capacity. The chief surgeons call the local surgeons together once a year to consider if some of the seriously injured who die of their injuries may not be saved and some suffering crippling injuries may not be made whole, and if others may not have their period of disability made shorter.

Who shall measure the welfare service these corporations are carrying on with scarcely a public notice? We cannot measure the service in terms of dollars.

A long chapter could be written on the activities of a similar character being inaugurated by

the government and by states in the interests of the whole people. We can think of scarcely any public service which does not find a point of contact with the science of medicine and yet how little does the public think of this. The medical practitioner who is the representative of the science of medicine asks but little of the public on his own account, he only asks for greater opportunities, which the public slowly and grudgingly grants. How little does the general public realize the greater welfare activities of private corporations as compared with the state as represented by its legislatures.

The fifty years of observation has brought to us many important lessons, we realize that we are far behind the more advanced European countries (as before the great war) but we are progressing. If we had more men of the vision of Ralph C. Richards in our legislative bodies what might be the future of our country?

ACCIDENTS ON C. & N. W. RAILWAY

Statement showing reduction in number of accidents on the Chicago & Northwestern Railway for ten and one-half years ending December 31, 1920, as compared with ten and one-half years on same basis as year ending June 30, 1910, before the safety committees were organized. One hundred eighty-nine fewer enginemen and trainmen killed, a decrease of 46.8 per cent; 17,416 fewer enginemen and trainmen injured, a decrease of 50.1 per cent; 74 fewer enginemen and switchmen killed, a decrease of 39.2 per cent; 398 fewer enginemen and switchmen injured, a decrease of 5.8 per cent; 45 fewer stationmen killed, a decrease of 71.4 per cent; 1,006 fewer stationmen injured, a decrease of 13.1 per cent; 117 fewer trackmen killed, a decrease of 40 per cent; 5,633 fewer trackmen injured, a decrease of 31 per cent; 6 fewer B. and B. men killed, a decrease of 18.8 per cent; 1,176 fewer B. and B. men injured, a decrease of 36 per cent; 7 fewer shop and R. H. men killed, a decrease of 16.6 per cent; 1,049 fewer shop and R. H. men injured, a decrease of 7.7 per cent; 2 fewer unclassified employees killed, a decrease of 2.7 per cent.

But an increase of 20 car repairers and inspectors killed; 3,167 car repairers and inspectors injured; *3 signalmen killed; *254 signalmen injured; 657 unclassified employees injured.

Total reduction of 417 fewer employees killed, a decrease of 37 per cent; 22,600 fewer employees injured, a decrease of 24.8 per cent; 4 fewer passengers killed, a decrease of 3.5 per cent; 2,003 fewer passengers injured, a decrease of 20.4 per cent; 629 fewer outsiders killed, a decrease of 25.3 per cent; 330 fewer outsiders injured, a decrease of 5.1 per cent.

Total—1,050 fewer persons killed, a decrease of 28.1 per cent; 24,933 fewer persons injured, a decrease of 23.3 per cent.

Mileage, 1910, 7,945 miles; mileage, 1920, 8,405 miles.

All accidents are counted where injured person loses one day's time or more.

*Signalmen were shown as unclassified employees prior to 1917.

COORDINATION IN PUBLIC HEALTH WORK

The Journal of the American Medical Association for March 21, 1921, presents a convincing editorial on the advantages of coordination of the numerous health organizations. For many years the American Medical Association has maintained an active campaign in the interest of public health, but until recently very little public interest has been manifested, or until the war sacrifices brought to us in a personal sense, the dangers surrounding our people. In our anxiety to do something, numerous societies sprang into existence, and in our past indifference and lack of training and thinking in terms of public health, we operated in a wasteful manner, and with much duplication.

The Journal points out the important fact that allied associations are joining in their work; for example the Women's Foundation for Health has joined fourteen national women's organizations. Twelve other organizations have been consolidated in the American Hospital Association, the American College of Surgeons, the Catholic Hospital Association, the National Association for Public Health Nursing and the American Medical Association.

The editorial closes with this expression of hope: "There is a strong tendency towards co-operation and combination as a substitute for division and rivalry. What the future may bring in the organization of the public for health purposes it is difficult to predict; but the present tendency toward mutual understanding and co-operation is both encouraging and desirable."

THE NEW YORK MEDICAL JOURNAL

The New York Medical Journal which has had an honorable history and has at different times incorporated the Philadelphia Medical Journal and the Medical News, has changed from a weekly to a semi-monthly; presents from time to time, biographic sketches of men who have been distinguished in literature and who began as physicians. In the April 6th number is a short biography of Dr. Robert Seymour Bridges, the present Poet Laureate of England, appointed by Premier Asquith July 16, 1913.

Dr. Bridges was born October 23, 1844, on the Isle of Thaut at the mouth of the River Thames. Educated at Eton and Oxford; of a distinguished English family. He entered St. Bartholomew's Hospital as a medical student and in due course, received his degree of Doctor of Medicine. Dr. Bridges became regularly attached to the staff of St. Bartholomew's, and with other hospitals. He was particularly interested in the diseases of childhood and served as assistant physician at the London Children's Hospital. Being possessed of private means, traveled extensively and gave much time to literature. At the age of thirty-eight years retired, married, and located on his beautiful estate at Yattenden in Berkshire and devoted himself to literature.

Dr. Bridges is a retiring man and leads an obscure life so far as publicity is concerned, which he avoids on all possible occasions.

INCREASE OF DUES

The Eclectic Medical Journal (of Cincinnati) quotes an editorial, which is taken from the Central Journal of Homeopathy which advocates the increase of dues in medical societies for better organization and efficiency.

These are strenuous times financially, but the protection and benefits of societies are worth their costs.

What seems good for Homeopaths and Eclectics is likewise good for us of the "Regular School!"

At the meeting of the Summit County Clinical Society in Akron on January 12, the secretary was instructed to send the following telegram to the State Society:

The Summit County Clinical Society wishes to go on record as unanimously in favor of dues for the State Society being raised to \$10 per year.

This telegram resulted from an animated discussion among the members on the dues we pay to support our state organization. The conclusion was reached, unanimously, that we do injustice to ourselves by withholding a proper contribution to our most important activity. Let us, then, briefly analyze the situation.

From time immemorial men have banded together to form societies of various sorts. The nature and character of these societies have been determined largely by circumstances.

Medical societies are of honored and extreme age. Primarily developed as social and teaching institutions, they have come to represent everything of interest and protection to our profession. They furnish us at once our greatest relaxation, our best post-graduate course and our staunchest champion against injustice and oppression. Only those who have thoroughly cultivated the habit of attending society meetings know the pleasure they furnish. The ex-

change of fellowship is always cheering and entertaining. The renewal of friendships and college associations yields a keen delight. After all, we are social creatures of a limited sort, and in no other place can the same amount of time and expense return such a splendid dividend as at our society meetings. He who persistently misses all this is truly to be pitied.

And besides, look at the extreme value of the interchange of professional experience and opinion. We are perfected by our fellow's contributions to our small stock of knowledge. No matter how simple his contribution may be, it contains a grain of wisdom for our guidance.

Those of us who assist in making up a program give of our best. We give it freely, not for our own vain glory, but for the help and enlightenment of others. And indeed the true source of enrichment of the literature and practice of any profession is to be found in the "swapping" of experiences. Many who could do their little, fail or refuse. But the earnest few justify their faith by their works in behalf of their brethren and find joy in offering meat to their fellows.

The real and lasting purpose of any society is to promote fellowship. How best can that be done? Of prime importance is to get the habit of going. For it is a habit and must be cultivated assiduously. Only when the habit is formed can the maximum good be obtained. Next is the desire and willingness to add our mite to the program. It may be a paper, a discussion or even only a bit of applause. We all like to be applauded, some of us prefer it to criticism. But let us make ourselves felt even if we can only brag.

And last, but not least, furnish your society with the sinews of war. Your church, your club, your hobby, all reach your purse. You give and pay because it is your pleasure. And the sum total of all your giving makes it possible for anything you have your heart in to exert a collective power and influence upon the ends for which you are striving.

Your State Society represents you in your relations to each other, in your relation to the state and through it to the public. It speaks for you. It urges for you. It defends you. And it can best do all these things if you make it a comprehensive working body, a body militant and yet responsive. You must make yourself a committee of one to bring in the other fellow. Let no man of repute in your community remain outside. Charge your heart and your mind with the task of bringing him in. If you have been "sold" in the right way, you can also sell him.

IOWA STATE UNIVERSITY NEWS

Don M. Griswold, Iowa City

The recent alumnæ clinic at the University Hospital has been receiving very favorable comment. About three hundred Iowa physicians were in attendance at the clinic and they all expressed their

opinion that this year's clinic was well worth the time and money involved.

President Jessup gave a very interesting talk in which he commented on the fact that Michigan, Wisconsin, Virginia and several other states were developing their medical schools in small cities closely associated with the State University's. This development in medicine was thought impractical or impossible only a few years ago but President Jessup called attention to the fact that the University of Iowa has the second largest teaching hospital in the United States, exceeded only by Johns Hopkins.

Dr. Rilla Grafton Hay, who graduated in the College of Medicine in 1873, is dead in Los Angeles where she practiced for forty-five years. Dr. Hay was the first woman granted license to practice medicine in California.

The Iowa X-Ray Club held its annual meeting at the close of the recent alumnæ clinic. This club is rapidly becoming one of the most prominent of its kind in the United States. The meetings are attracting a large number of men working in this special field and each year a larger number of general practitioners are attending the meetings to take advantage of the newest developments in this line of work.

Dr. L. W. Dean, Dean of the College of Medicine, has been named State Chairman for National Hospital Day. This day has been set aside by the president of the United States for special programs for interesting the general public in hospital work. The day selected is May 12 which is the birthday of Florence Nightingale. Many hospitals will observe National Hospital Day by holding annual graduation exercises for the nurses training schools. The University Hospital will be open to visitors especially for those interested in investigating training schools for nurses. The demand for nurses and the opportunities in the nursing profession are second to no other vocation open to women.

Seven students in the College of Medicine at the University of Iowa have been appointed internes in the University Hospital. They are Clarence W. Baldrige of Strawberry Point, Julian D. Boyd of Iowa City, Paul R. Rockwood of Iowa City, Lawrence Randall of Denison, William G. Vandesteeg of Hospers, Lloyd E. Patrick of Iowa City and Kenneth Von Lackum of Dysart.

Work has been resumed on the new Psychopathic Hospital and it is now expected that the building will be ready for the admission of patients by September 1.

The outpatient psychopathic service is developing very rapidly because of the limited quarters at present available for inpatients. Many patients are being brought by the family physicians to these outpatient clinics for consultation and advice after

which the patient returns home and is treated by the family physician.

Dr. Paul Lewis of the University of Pennsylvania recently spent a week at the University Hospital and the medical building making a careful survey of facilities for medical education here. While here he was the guest of Dr. Samuel T. Orton of the Psychopathic Hospital.

Sergeant Fuller of the U. S. Public Health Service addressed the senior class on the subject of "U. S. Public Health Service as a Career." Dr. Fuller is commissioned to carry this message to the senior class of a few of the best medical schools in order that the ranks of the public health service may be kept full. The enormous expansion of the Public Health Service made necessary by taking over the physical rehabilitation of all world war veterans made many desirable vacancies in this service. Sergeant Fuller has been liaison officer at St. Elizabeth Hospital, Washington, D. C.

The state epidemiologist has been called to attend the following outbreaks of contagious disease within the last month; diphtheria at Letts, diphtheria at Brighton, scarlet fever at Allison, small-pox at Granger and small-pox at West Chester. The outbreaks were all small and as a consequence easily controlled.

The laboratory conducted for the State Board of Health wishes to call attention to the increasing number of dog's heads received for the examination for rabies. Recently, because of the warm weather, several specimens have been received in a badly decomposed condition which were almost useless for examination. If the following simple rules were followed the diagnosis would be facilitated:

In case of dog bite

A. What to do with the dog:

1. Don't kill the dog unless it is necessary. Tie him up securely with a light chain or wire. Give the dog plenty of food and drink. Treat the dog kindly, he may be sick. Make sure that the dog does not get away. Make sure that children or inquisitive adults do not get bitten. If the dog is alive after ten days, the dog was not rabid. If the dog dies within ten days cut off the whole head. Pack in a candy pail or box of similar size with three-fourths saw dust and one-fourth ice and ship to the State Board of Health Laboratory, Iowa City, Iowa, at once.

2. If the dog must be killed to prevent further biting or to affect capture, do not in any way damage the head. Cut off the head and ship it as directed above.

B. What to do for the person bitten:

1. Take patient to a physician at once to have wounds cauterized and dressed. This is of special importance if the biting occurred upon the face or hands.

2. If the dog lives ten days there is no danger of rabies, provided the right dog has been caught.

3. If the dog dies or is killed get the laboratory report as soon as possible and if necessary start treatment at once.

MEDICAL NEWS NOTES

Now that the public health service has leased the hotel and sanitarium property at Colfax, Iowa, for hospital purposes, disabled soldiers will be sent there from four different states.

Officials of the service said they would be sent to Colfax from Iowa, Nebraska, Missouri and Kansas. At the outset, about 200 will be accommodated. This will be increased later.

Actual use of the property by the government will begin in about sixty days, after certain improvements are made and equipment installed.

A number of local physicians of Davenport have arranged for the purchase from the Radium Chemical Company of Pittsburgh, 100 milligrams of radium, valued at \$12,000. This will be used for the treatment of cancer and other malignant flesh and skin diseases.

One of the popular visitors of the early spring season in Des Moines was Mrs. John Scroggie of Saskatchewan, Canada, who visited in the home of Dr. and Mrs. J. F. Auner. Throughout her stay she was delightfully entertained at a series of dinners, teas and bridge luncheons. Both Mrs. Scroggie and her husband, D. J. Q. Scroggie, were former Iowa residents and for the last eight years have resided in northwestern Saskatchewan, where Dr. Scroggie is the surgeon of the prairies and has established a hospital at Saskatoon.

A Marvel of Medical Science

Medical science has just given to the world another surprise in demonstrating that a product of the human body, adrenalin, can be used in restoring the dead to life. Haste to qualify the statement seems necessary in fact of the certain impression the statement will make. It does not mean resurrection in the wider sense, but revival somewhat after the manner in which persons are restored to life by the pulmotor, which is a purely mechanical thing utilized to induce respiration. Persons who have died suddenly while apparently in good health may be and have been restored to life by the use of adrenalin.

Adrenalin is a miracle-working product of two little glands, each situated on top of the human kidneys. The glands manufacture from time to time a vital essence that is poured into the blood stream to maintain the efficiency of heart action, to control and regulate blood-pressure, to tone up and strengthen the muscular system and to improve the standard of blood quality. Addison's disease results when the supply of adrenalin is interrupted and

the victim suffers a fall of blood-pressure, weak heart action, muscular feebleness, anaemia and bronzing of the skin.

Physicians have found out these things about adrenalin and are now applying it medicinally. A child of eleven months collapsed while undergoing an operation and died. The body became cold. Adrenalin was administered and the child recovered and is still living. Another case was that of a woman who dropped dead, her heart having ceased to beat, her jaw becoming set and her eyes indicating that death had occurred. Adrenalin restored her and within a few minutes she was sitting up and talking. The discovery is a distinct triumph for medical practice, since it will save many lives that otherwise would be forfeited. It is a direct contradiction of the theory, as were the x-ray and radium, that science had learned all, that there was nothing new possible.—Sioux City Journal.

Country Doctor Has His Rewards

The Massachusetts country doctor, it is estimated, takes in about \$2,000 a year. That is more than most of his clerical brethren earn. But it is little enough for a man fit to repair the delicate human enginery. The real reward in his profession, as with the rural ministry, lies in the respect he commands, and the chance to be regarded as the best friend and helper of a wide circle. Strong as the lure of a city practice is to many a physician, there are some who are fortunately content with the less conspicuous place in the sun of public recognition and professional acclaim that rural practice offers. It does not follow, however, that a doctor in a small place is obscure. Rochester, Minnesota, is not so big as Philadelphia, Boston or New York, yet a multitude in quest of healing has hit the trail to the shrine of eminent physicians there. William Dean Howells was fond of pointing out the excellence of the literature produced in quiet country places, and it is true of other forms of healing that not all of the ablest ministrants are metropolitan.—Philadelphia Public Ledger.

A Big Need of Community Hospitals

Advanced methods in the practice of medicine and the treatment of disease have made the hospital or the health center with laboratory equipment an absolute necessity. Correct diagnosis is a fundamental in medical treatment, and without modern laboratory equipment this diagnosis is practically impossible. The situation that has developed affects rural communities especially. The methods of the old-fashioned country practitioner are no longer possible, and lack of hospital facilities in the rural districts is driving the modern, well trained physician to the city.

A recent country-wide survey by the council on medical education and hospitals of the American Medical Association reveals that the supply of hospitals is inadequate in many cities, but the shortage

is particularly acute in the country. Over one-half, or 56 per cent, of the counties in the United States are entirely without hospitals, the deficiency being especially marked in the middle western and southern states. In Missouri there are eighty-nine counties without hospitals; in Kansas sixty, and in Oklahoma fifty.

This situation is declared by medical authorities to be the main factor in the move of physicians from the country to the city. Investigation has shown that in counties where no hospitals are found the shortage of physicians is greatest.

Just what the developments from this situation may be is indicated in an analysis of vital statistics in states where figures on rural health conditions have been available for more than twenty years. Despite the fact that rural life is commonly regarded as more conducive than city life to health and longevity, this analysis revealed that the death rate in the cities had been declining more rapidly than in the rural districts, where the decline for nearly two decades was almost negligible.

Here is an obvious need for the betterment of rural conditions, along with the building of modern schools and good roads, if these communities are to be enabled to compete with the cities for a fair share of the country's population. City and state hospitals could not be made to take care of rural sick who need attention, even if such a move were desirable. The American Medical Association is preparing to urge the rural communities to establish the hospitals and health centers they need. The Red Cross already has given some assistance in the establishment of health centers in small towns and country districts. But these centers frequently are without the necessary laboratory equipment. The situation as a whole is an inviting field for the medical profession and for community effort.—Kansas City Star.

The laying of the corner stone of the Henry County Hospital, crowned ten long years of work by the friends of the hospital, with signal success.

SOCIETY PROCEEDINGS

Allamakee County Medical Society

A meeting of the Allamakee County Medical Association was held at the court house in Waukon May 3. Besides the local physicians, Dr. Schmidt of Postville and Dr. Thornton of Lansing were present. An interesting paper on diabetes was read by Dr. Rominger. This was a delayed annual meeting of the association. Dr. Svebaken of Waukon was selected president for the ensuing year and Dr. Thornton of Lansing, secretary.

Blackhawk County Medical Society

The Blackhawk County Medical Society held the annual meeting April 12, 1921, in the Commercial Club rooms. Election of officers: Dr. W. L. Hearst,

president; Dr. T. N. McManus, vice-president; Dr. Edward Mallory, secretary; Dr. J. E. Ridenour, treasurer.

The paper of the evening was by Dr. McGrady of Independence.

Boone County Medical Society

Boone County Medical Society met at the office of Dr. Wm. Woodburn March 24, 1921.

Dr. Eli Grimes read a paper on Bronchiectasis, illustrated by x-ray pictures.

Members from out of town, Dr. Ganoe of Ogden, Dr. Laidley of Pilot Mound, and Drs. Grimes and Cullen of Des Moines.

Cass County Medical Society

The Cass County Medical Society met in session at the Masonic Parlor, Atlantic, Iowa, Wednesday, April 20, 1921 at 1:30 p. m. Members present were Drs. C. L. Campbell, R. L. Barnett, W. F. Graham, R. M. Cullison, C. G. Clark, W. S. Greenleaf, and R. A. Becker, Atlantic; James Maynard, Adair and M. F. Stultz, Wiota.

The program was: Some Syphilitics That I Have Met, by Dr. James Maynard, Adair, and Blood Transfusion, by Dr. Earl Montgomery, Atlantic. Dr. Montgomery having gone to Omaha to spend three months in the study of the eye and ear, there was only one paper, that of Dr. Maynard. The paper was a splendid one and the discussion was opened by Dr. C. L. Campbell of Atlantic. The other doctors present participated in the discussion. A communication from the Cass County Red Cross Nurse, Miss Ethel Hedges, asking that the members bring in tuberculosis patients to a clinic for experts, to be selected by Miss Hedges to examine, was turned down by vote of the society. M. F. S., Sec'y.

Cerro Gordo County Medical Society

The Cerro Gordo County Medical Society held its April meeting at the Chamber of Commerce, Mason City, April 27, with twenty members and two guests in attendance.

The scientific program was opened by Dr. George M. Crabb, presenting a paper on Diagnosis and Treatment of Conditions of the Prostate; Dr. W. J. Egloff and others discussing the subject. Dr. C. E. Dakin presented the subject: Diagnosis of Conditions of the Lower Abdomen, the discussion of this paper was opened by Dr. J. E. Marek and Dr. B. F. Weston, followed by other members.

Dr. F. T. Scanlon, formerly of Clear Lake, who for the past eight months has been doing post-graduate work in New York City, related some of his impressions of the methods of the profession in the East as compared with the methods and practice of the profession in the Middle West, favoring the profession of the Middle West.

Dr. Stella Mason of Mason City, who has recently been on a trip around the world, gave a short talk of conditions as she observed them in the Orient, Aus-

tralia, and England, with much to the credit of America's conditions. Wilbur Diven, Sec'y.

The regular meeting of the Cerro Gordo County Medical Society was held at the Chamber of Commerce, Mason City, Tuesday evening, May 31, with sixteen members and two guests in attendance.

The program consisted of the presentation of the subject of "Heart Block" by Dr. L. R. Woodward, Mason City, who very nicely demonstrated the anatomical relations by dissections on the mammal heart. Discussion followed by Dr. J. H. Fraser, closed by Dr. Woodward. Dr. C. M. Franchere, Mason City, presented the subject, "Heart Disease in Pregnancy." Discussion followed by members present and closed by Dr. Franchere.

The report of the delegate to the State Society meeting—Dr. W. E. Long, was received and accepted. Discussion followed and suggestions as to future legislation with the idea of showing more interest against indiscriminate medical legislation, were made.

A social time with a smoker closed the meeting.
Wilbur Diven, Sec'y.

Fayette County Medical Society

At the meeting of the Fayette County Medical Society held at Oelwein April 29, the following resolution was passed.

Whereas: The Supreme Ruler of the Universe has seen fit in His wisdom to remove from our midst Dr. Richard P. Berry.

Therefore be it resolved by the Fayette County Medical Society, that in the death of Dr. Berry, this society has lost a faithful, diligent, and respected member; the community, an earnest, conscientious and capable physician, whose services were always at the call of anyone in sickness, no matter who they were.

This society deeply deplores the passing of Dr. Berry, and extends to the sorrowing relatives and his many friends, its sincere sympathy.

Resolved: That a copy of this resolution be sent to the family; spread upon the records of this society; and sent to the papers of Fayette county.

H. S. Hadsel,
G. N. Wassom,
F. P. Leehey,
Committee.

Grundy County Medical Society

Grundy County Medical Society met in Grundy Center, March 18, 1921. Election of officers: Dr. Kuhler, president; Dr. Biebesheimer, vice-president; Dr. Carpenter, secretary-treasurer.

Iowa Clinical Medical Society

The Iowa Clinical Medical Society met at Iowa Lutheran Hospital May 10 with diagnosticians from all parts of the state in attendance.

Clinical cases were presented during the morning

by Dr. Fred Moore, Dr. J. F. Auner, Dr. Granville Ryan, Dr. Russell Doolittle and Dr. F. E. Ely.

Members of the society were entertained at luncheon at the Des Moines Club. At a business meeting following officers were elected for the coming year: Dr. Frank Fuller, Keokuk, president; Dr. Clarence Van Epps of the State University of Iowa City, vice-president; Dr. Julius Weingart of Des Moines, re-elected secretary and treasurer.

A theater party last evening concluded the session.

Lee County Medical Society

The semi-annual meeting of the Lee County Medical Association was held in the Tiffany room of the Hotel Iowa, May 6, and was attended by many doctors from the surrounding towns. E. W. McManus gave the principal address of the evening.

The program was largely made up of scientific subjects.

The officers of the society: Dr. O. T. Clark of Keokuk, president; Dr. F. W. Noble of Fort Madison, vice-president; Dr. William Rankin of Keokuk, secretary and treasurer.

The entertainment committee consists of Dr. C. R. Armentrout, Dr. F. M. Fuller, and Dr. F. B. Dorsey, Jr.

Physicians from Des Moines, Keokuk, Fort Madison and Donnellson were on the program, which was as follows:

Medical Treatment of Goiter, Dr. Granville N. Ryan, Des Moines; Acute Catarrhal Otitis Media, Dr. M. C. Van Deventer, Keokuk.

Some of the practical points of the chlorine antiseptics, with special reference to Dakin's solutions, Dr. Thomas Bess, Fort Madison. A paper, Dr. J. L. Saar, Donnellson.

Plymouth County Medical Society

The Plymouth County Medical Society met in regular meeting at the office of the Le Mars Clinic Tuesday evening, April 5. Dr. Stewart of Remsen read a very able paper, "The Old Practitioner." Dr. Kerr of Akron read a paper on "Mistakes and What They Teach Us," and Dr. Heller a paper on "Hemorrhage of the New-born."

After the meeting adjourned to the Boston cafe where the doctors of the Le Mars Clinic had arranged for a very nice supper to be served.

The next meeting will be held in Remsen on the first Tuesday in September.

Polk County Medical Society

Polk County Medical Society met at the Grant Club, Tuesday, March 29, 1921. J. W. Osborne, president; Harry E. Ransom, secretary.

An interesting feature of the meeting was an address by Dr. Wilfred T. Grenfeld of Labrador. Dr. Grenfeld has gained a world-wide fame for the work he has done in relieving the condition of the fishermen of Labrador and the Newfoundland banks. Before Dr. Grenfeld became interested in organizing

hospital relief in this remote corner of the world these poor people hardly knew what medical relief was, and their condition was pitiable in the extreme. It was a rare pleasure to meet face to face, a cultured physician who sought a field of labor in the poorest quarters of London and later in Labrador for the "adventure of the thing," as he expressed it, with the characteristic English idea that there was greater sport in a practice in the white chapel district than in aristocratic London.

The other features of the program was a paper by Dr. Granville Ryan: Rat Bite Fever. Discussion opened by Col. W. S. Conkling.

Diseases due to Non-Infectious, Foreign Proteins, by Dr. Glomset. Discussion opened by Dr. James E. Dyson. Therapy in Bronchitis, by Dr. R. L. Parker. Discussion by E. R. Posner. The general discussion which followed by new doctors and by old doctors was interesting and instructive.

Story County Medical Society

Miss Ruth Clough, local Red Cross nurse and Miss Isabelle Kellman of the tuberculosis association worked up an all day tuberculosis and orthopædic clinic at Ames.

The day was made an occasion for a session of the County Medical Society. Dr. J. H. Peck of Des Moines was present all day and made the general physical examinations. Dr. Dyer of Ames made the nose and throat examinations and Dr. Arthur Steindler of the State University made the orthopædic examinations. About fifty patients were examined and a number of active cases found. It was a very interesting and helpful session to the county medical profession and it is hoped it will prove beneficial to the public.

B. G. Dyer, Sec'y.

Tama County Medical Society

Members of the Tama County Medical Association and their wives, twenty-eight in all, enjoyed a 6:30 dinner Thursday evening, May 5 at Hotel Toledo, the occasion being the annual meeting of the association.

At the business meeting which followed, Dr. A. J. Pinkerton of Traer was elected as president for the ensuing year and Dr. A. A. Crabbe, also of Traer, as secretary.

Immediately after the business meeting a helpful program was given. Dr. Jacob Breid gave a clinic illustrating various types of tuberculosis, preceding Dr. A. E. Kepford, who talked on the various aspects of tuberculosis and its relation to the public.

Wright County Medical Society

Wright County Medical Society at a meeting held in Eagle Grove, May 6, 1921, reduced fees: Day visits from \$3 to \$2.50, night visits \$5 to \$4. Mileage on account of bad roads from \$2 to \$1.50.

Northwestern Iowa Medical Society

The regular spring meeting of the Northwestern Iowa Medical Society was held at Sheldon, May 4, 1921, with a banquet at Hotel Myers at 7 p. m. Meeting was called to order at Commercial Club rooms at 8 p. m. Order of business: Call to order by the president. Reading of minutes of last meeting. Unfinished business. Miscellaneous business, including committee reports, election of new members and payment of dues. Papers and discussions: Radium and its Use in Uterine Disease, Dr. Lynn L. Myers; Extrophy of the Bladder and Report of Case, Dr. E. S. Aelits; The Legislature and the Medical Profession, Senator Ben C. Abben; President's Address, Dr. H. J. Brackney; Case Reports, Trichinosis, Dr. L. L. Corcoran; Pernicious Anemia, Dr. A. De Bey. Clinical cases; announcements.

Committee on local arrangements: Drs. Brackney, Myers and Brock. J. M. C., Sec'y.

Southwestern Medical Association

About fifty doctors from the various towns in southwestern Iowa attended the Southwestern Medical Association at Creston held in the assembly room at the Greater Community Hospital.

The program included addresses by Dr. E. B. Howell of Ottumwa, Dr. Glomset of Des Moines, Dr. E. E. Bamford of Centerville, Dr. F. A. Hecker of Ottumwa, Dr. Henry B. Lemere of Omaha, Nebraska; Dr. Howard L. Beye of Iowa City, and Dr. Albert F. Tayler of Omaha, Nebraska.

The doctors in attendance at the meeting were: Dr. Enos Mitchell, Grand River; Dr. W. S. Ambor, Corbon; Dr. S. Bender, Corning; Dr. W. A. Wright, Thayer; Dr. A. S. Tyler, Omaha, Nebraska; Dr. F. E. Sampson, Creston; Dr. W. K. Keith, Creston; Dr. Cleve Coakley, Creston; Dr. C. H. Harken, Osceola; Dr. J. S. Coontz, Garden Grove; Dr. Geo. A. Allivand, Elliott; Dr. J. D. Shively, Osceola; Dr. Eva M. Shively, Osceola; Dr. E. E. Bamford, Centerville; Dr. J. S. Aldrich, Shenandoah; Dr. Ed. C. Ayers, Lorimor; Dr. Jas. C. Macrae, Creston; Dr. T. V. Golden, Creston; Dr. H. D. McCall, Clearfield; Dr. W. S. Kyle, Shannon City; Dr. H. F. Minen, Afton; Dr. O. E. Peterson, Lorimor; Dr. W. S. Reiley, Red Oak; Dr. H. L. Beye, Iowa City; Dr. F. Land, Lorimor; Dr. F. A. Hecker, Ottumwa; Dr. H. L. Hollenbeck, Osceola; Dr. Henry B. Lemere, Omaha, Nebraska; Dr. C. W. McCord, New Market; Dr. Glomset, Des Moines; Dr. Fred Watts, Creston; Dr. Frank Fell, Osceola; Dr. C. H. Bryant, Corning; Dr. A. S. Beatty, Creston.

The women physicians of Des Moines entertained at dinner at the Younker tea rooms as a compliment to Dr. Lena Sadler of Chicago, child expert who was in the city as the speaker on the opening day of the Younker-Capital baby health week.

On this occasion the guests were Dr. Alice Humphrey Hatch. Dr. Mae Habenicht, Dr. Sophie Hinze Scott, Dr. Johnson, Dr. Nelle Noble, Dr. Jennie M.

Coleman, Dr. Grace Doan, Dr. Eleanor Hutchinson and Mrs. M. N. Voldeng of Woodward.

At noon Dr. Sadler was the guest of honor at a luncheon extended by Younker Brothers to representatives of various women's organizations, the hostesses and assistants at the baby show. Covers were laid for Mrs. H. J. Metcalf, Dr. Lena Sadler, Dr. Mae Habenicht, Misses Emily Stapp, Margaret McKee, Esse Hathaway, Blanche Wingate, Mary Aldrich, Adah Hershey, Beatrice Short, Mrs. Frank Armstrong, Mrs. I. H. Tomlinson, Mrs. Frederick W. Weitz, Mrs. W. C. Jarnagin, Mrs. Z. C. Thornburg, Mrs. Ralph Plumb, Mrs. S. E. Lincoln, Mrs. Bertha Geisse, and Mrs. Oscar Neumann.

The first baby clinic ever held in the county was conducted by Mrs. Lois Payne, Red Cross county nurse, at Elkhart, Saturday, April 9, 1921, with fifty parents, bringing twenty-two babies in attendance.

Dr. M. L. Turner of Des Moines gave the examinations and Drs. Ketchum and Kirby of Elkhart, Merkle of Ankeny and Carpenter of Altoona aided.

The clinic, which took all day, was held in the Elkhart Consolidated school building.

Third Meeting of Iowa's Club of Roentgenologists

The Radiogram as a Determinant in Dental Infections, Maximilian, Dr. John Hubney, Chicago.

The X-Ray Diagnosis of Kidney Tumors, Dr. Alexander B. Moore, Rochester.

The X-Ray Findings of Insignificance in Searching for Incipient Tuberculosis, Dr. Hollis E. Potter, Chicago.

Observations in Adhesions of the Pericardium, Dr. Edwin C. Ernest, St. Louis.

The Roentgen Analysis of Bone Shadows, Dr. Edward H. Skinner, Kansas City.

The Method of Preparation of Radium Emanation for Therapeutic Application, Dr. Charles H. Viol, Pittsburg.

Treatment of Deep Seated Cancer, Dr. Henry Schmitz, Chicago.

More than 100 doctors and others interested in the big meeting, assembled at the hospital in the medical amphitheatre, at 9:30 o'clock this morning.

The roster of early comers embraced names of learned men and women from Iowa, Illinois, Minnesota, Michigan, Nebraska, Missouri and other states.

X-ray experts; students of the mystic science; good Sisters and Reverend Mothers from Catholic institutions that are giving benefits to suffering humanity; and many others interested, research workers, and exponents of roentgenology are attending.

The early roster is as follows: Dr. F. G. Murray, Cedar Rapids; Dr. Geo. M. Luckey, Vinton; Sister M. Josephine, Cedar Rapids; Dr. H. M. Decker, Davenport; Dr. E. W. Rome, Lincoln, Nebraska; Dr. Roscoe Linch, Lincoln, Nebraska; Dr. Arbor D. Munger, Lincoln, Nebraska; Dr. I. H. Lockwood, Lincoln, Nebraska; Dr. B. N. Sherman, Dexter; Dr. C. A. Noland, Boone; Dr. R. F. Bellani, Sioux City; Dr. MacKillop, Magnuson, Omaha; Dr.

L. A. Hopkins, Grinnell; Dr. L. C. Horne, Muscatine; Dr. C. A. Bothwell, Oelwein; Sister Mary Oliva, Mason City; Sister Mary Roberts, Mason City; Sister Mary Michael, R. N., Sioux City; Sister M. Edward, Cedar Rapids; Sister M. Yod, Cedar Rapids; Sister M. De Pazzi, Anamosa; Dr. J. L. Husted, Clarinda; Dr. E. G. Rawson, Anamosa; Dr. A. S. Hansen, Cedar Falls; Dr. C. O. Sones, Panora; Dr. L. A. Bassett, Boone, Iowa; Dr. W. W. Hansell, Ottumwa, Iowa; Dr. F. O. Blossom, Marengo, Iowa; Dr. C. W. Grimdof, Atlantic, Iowa; Dr. L. L. Heminger, Council Bluffs; Dr. Geo. L. Langworthy, Pawluska, Oklahoma; Dr. D. G. Mills, McPallsberg; Dr. A. G. Sapulding, Avoca; Dr. H. E. McCall, Clearfield; Dr. W. J. Brenner, Akron; Dr. C. G. Field, Ft. Dodge; Dr. J. W. Bailey, Des Moines; Dr. M. J. Kenefick, Algona; Dr. Eugene Kenefick, Algona; Dr. E. E. Richardson, Webster City; Dr. C. E. Wright, Clear Lake; Dr. A. E. Walker, Riceville; Dr. E. K. Tyler, Muscatine; Dr. Enos D. Miller, Wellman; Dr. E. C. Yoder, Denison; Dr. D. C. Snyder, Hartley; Dr. W. J. Neuzil, Cedar Rapids; Dr. Thomas P. Bond, Des Moines; Dr. B. B. Leonard, Correctionville; Dr. G. N. Day, Lone Tree; Dr. C. F. Starr, Mason City; Dr. George M. Crabb, Mason City; Dr. George W. Franklin, Jefferson; Dr. W. A. McCorker, Cedar Rapids; Dr. C. J. Saunders, Fort Dodge; Sister M. Alfreda, Clinton; Sister M. Benedicta, Clinton; Dr. Boyd Anderson, Des Moines; Dr. J. D. Lowry, Fort Dodge; Dr. George W. Brady, Chicago; Dr. R. C. Crumpton, Webster City; Dr. T. N. Nelson, Ottumwa; Dr. R. M. Cullison, Atlantic; Dr. H. W. Orr, Lincoln, Nebraska; Dr. G. S. Millica, Battle Creek, Iowa; Dr. A. W. Erskine, Cedar Rapids; Dr. H. B. Stinbach, Detroit, Michigan; Dr. Joseph Zadrazik, Cedar Rapids; Dr. C. C. Bowie, Carroll; Dr. R. S. Grossman, Marshalltown; Dr. Wm. H. R. Rindleman, Davenport; Dr. D. C. Shards, Bernard; Dr. H. C. Young, Bloomfield; Dr. S. M. Bernadette, Fort Dodge; Sister Mary Edmunds, Fort Dodge; Dr. Thos. A. Burcham, Des Moines; Dr. C. N. O. Leir, Des Moines; Dr. F. W. Sells, Osceola; Dr. C. Shellito, Independence; Dr. J. T. Maloy, Brockton; Dr. C. L. Heald, Cedar Rapids; Dr. E. G. Dittmer, Manchester; Dr. H. H. Blockinger, Dubuque; Dr. W. E. Onspach, Colfax.

PERSONAL MENTION

Dr. Chas. D. Enfield of Jefferson has removed to Louisville, Kentucky.

Dr. and Mrs. Henry Matthey will sail on the Rotterdam for Europe to visit the Doctor's two sisters, Misses Emma and Anna Matthey at Rueschlikon, Switzerland. The voyage is made for the benefit of Mrs. Matthey's health. She is recovering from a serious illness and on the advice of her physicians is taking the voyage.

At the annual meeting of the Health Center at the Hotel Savery the following officers were elected for the coming year: C. W. Strock, president; Mrs. Jansen Haines, vice-president; Mrs. Ashton Clemens,

secretary and Dr. J. A. Hallett, treasurer. The executive committee elected is composed of Mrs. Mike Scanlon; Dr. J. W. Osborn; J. W. Studebaker, superintendent of schools; President Arthur Holmes, of Drake University, and Mrs. Sam Weinstock.

Dr. Julia F. Hill has returned from a month of special study in pathology at Iowa City and resumed her work in the Grinnell Clinic Laboratories. Dr. Hill received notice that she was to be made chairman of the publication committee of the Iowa Society of Medical Women, a very important position which requires that all the papers read at the meetings of the society must be edited by this committee.

Dr. W. S. Lessenger arrived home from Burlington where he has been in St. Frances Hospital for several weeks, recovering from a very serious operation.

Dr. T. M. Throckmorton has again opened his office in Chariton, after an absence of several months. Dr. Throckmorton's enforced leave from his duties as practitioner was due to a fractured hip. His friends will be glad to know that he is able to resume his practice.

Dr. William Brooks La Force, an alumnus of Iowa University is at Lsing Hua College, Peking, China, now, practicing medicine. He was graduated from the college of medicine, in 1890, and has had charge of the hospital and dispensary at the Peking University, a number of years. He has had opportunity in recent months to study the frightful conditions as to famine in the Oriental land.

Dr. J. H. Sams, Clarion, underwent two operations at Iowa City last week. One for relief from an abscess, and the other for mastoid trouble.

The council of the Royal College of Surgeons of Ireland, April 26, resolved to confer honorary fellowship on seven American surgeons including Dr. J. W. Mayo and Dr. C. H. Mayo of Rochester, Minnesota, and Dr. A. J. Ochsner of Chicago. It is hoped the ceremony of conferring the honors will occur in the autumn.

Senator Kenyon has named Merwin D. Raynor of What Cheer, son of Dr. Raynor of that place, for a cadetship at West Point. Young Raynor was recently named by Representative Ramseyer as first alternate to fill a sixth district vacancy.

Dr. R. R. Williams of Manning celebrated his seventy-second birthday March 15, 1921. Dr. Williams is a pioneer physician of Carroll county.

Dr. Craven of Adel has accepted a position in the Mayo Clinic in the department of eye, ear, nose and throat.

Dr. F. P. Lindsay a member of the faculty at the Davenport College of Chiropractics was sentenced for a year and a day in the Federal prison at Leavenworth for violation of the Harrison Drug Act.

Dr. F. E. Sampson of Creston, president of the Greater Community Association of Creston is making a state campaign in the interest of community hospitals and community health centers.

Dr. Ben T. Whitaker of Boone was operated upon

at the Moore County Hospital, April 3, for an acute appendicitis.

OBITUARY

David Agnew Crawford was born in Danville, Illinois, January 31, 1864 and died at the Presbyterian Hospital in Chicago, March 14, 1921.

At an early age he moved with his parents to a farm in Appanoose county, Iowa, where he lived till he was thirteen years of age when his parents moved to Centerville. Dr. Crawford entered the Keokuk College of Physicians and Surgeons from which school he received his first medical degree.

He located for the practice of medicine at Evansville, Indiana and during his residence there he acted as surgeon for the Louisville and Nashville railroad.

In 1898 he went to Chicago where he remained for three years acting as expert chemist for Armour and Co. This firm offered him superintendency of a department in their branch packing plant at Omaha but he declined to accept this preferring to follow his profession.

To further fit himself for work he took a post-graduate course at Rush Medical College in Chicago and a year's post-graduate work in Cincinnati, Ohio, and at Bellevue Hospital, N. Y. City.

After being in general practice for over twenty-five years he began to specialize on the eye, ear, nose and throat, locating in Centerville, Iowa.

To further promote himself for his specialty he took several year's post graduate work at Manhattan Eye and Ear Infirmary, New York City, and quite by accident, located in Guthrie Center where he has been ever since.

A short illness of scarlet fever resulted, March 31, 1921, at 6:00 o'clock, in the death of Dr. Larned Van Patten Allen, one of the most prominent of the younger physicians of Davenport. After exposure to a particularly malignant case of the disease, Dr. Allen developed scarlet fever last Monday. Dr. Allen was born in Davenport on February 21, 1887, the son of Dr. and Mrs. William L. Allen.

He graduated from the Davenport high school in 1904 and from Williams College in Williamstown, Massachusetts in 1908. His medical training was received at Harvard Medical school which he attended for one year and at Rush Medical College in Chicago. He received his M.D. degree from the latter college and a B.S. degree from the University of Chicago. After graduating from college, Dr. Allen served as first assistant surgeon in the Robert Packer Hospital in Sayre, Pennsylvania. From January, 1914, until the present time he has been associated with his father in Davenport in the practice of medicine, except for the period spent in the service.

Commissioned as a first lieutenant, Dr. Allen was first stationed at Des Moines under Col. Fairchild in the First Iowa Field Hospital, in July, 1917. In



DR. LARNED VAN PATTEN ALLEN

September, 1917, he was stationed with the field hospital, No. 134, at Camp Cody. From there he went to Camp Dix in August, 1918. On September 1, 1918, he was sent in advance of his division to attend the medical school at Langres, France, and later served as battalion surgeon of the first battalion of the 26th Infantry. He fought during the Meuse-Argonne campaigns with Colonel Roosevelt until the signing of the armistice. He was commissioned captain on August 14, 1918. He was discharged from the army in December, 1918, and returned to Davenport to resume his medical practice. He was a member of Trinity Episcopal Church in Davenport.

Irwin S. Boles was born December 9, 1844, in Trumbull county, Ohio, died at Shellsburg, April 1, 1921. He was a son of Silas and Martha Boles. The family came to Mt. Vernon, Iowa, when the subject of this sketch was nine years old. Irwin Boles graduated from Cornell College, and in 1871 commenced the study of medicine at Cleveland, Ohio, completing the course in 1874.

Dr. Boles was a veteran of the Civil War. He enlisted in 1864 in Co. C, 47th Iowa Volunteer Infantry, and served until the close of the war, when he was honorably discharged. He was married to Miss Sarah Bowe of Shellsburg on February 6, 1876.

Dr. Rilla Grafton Hay, aged seventy-one, a beloved alumnus of the Iowa University College of Medicine, class of 1873, is dead at Los Angeles, California, where she had practiced forty-five years, being the first woman to be granted a license to practice medicine in California.

She was the wife of Rev. John C. Hay, formerly a valued pastor of the Christian church of Iowa City, and pastor of the Central Christian church of Pueblo, Colorado, during a period of twelve years. They were married when she was sixteen. At Pueblo, also, Mrs. Hay served as head of the gynecological department of the State Insane Asylum, and was active in opening a Pueblo Hospital for women. Surviving are her husband and two sons, John C., Jr., and George R. Hay; and two daughters, Virginia, and Mrs. E. H. Gates, of Los Angeles. The body will be cremated at Los Angeles.

Dr. R. P. Berry, West Union, died April 17, 1921. Dr. Berry was born August 3, 1862, in Lindsay, Ontario, Canada and graduated from the medical department of McGill University, Montreal in 1888, coming immediately to Clermont where he practiced his profession for twenty-seven years. Six years ago he came to West Union thus broadening his territory of usefulness. Dr. Berry was an undefatigable worker. The life of a country practitioner must of necessity be a hard one and Dr. Berry was on the go almost every hour of the twenty-four and his life has paid the forfeit. He was ever the "good physician" and the wise counsellor of the afflicted, and with his passing people are saying "what shall

we do now, for we have lost our doctor." Many a household was represented at the services and many a tear was shed for the physician who had responded to his last call. Dr. Berry lived a simple life and in his few hours of leisure enjoyed reading and study. He possessed a remarkable memory and by virtue of his personality counted among his close friends men prominent in public life. He achieved success in a financial way as well as professionally, organizing the State Bank of Clermont and acting as its president for many years, retaining his interests there during life. He was also active in organizations, holding membership in the Knights of Columbus, Knights of Alhambra, the Modern Woodmen and a charter member of the B. P. O. E., of Oelwein. In politics he was a progressive republican.

Dr. Horace Lee Husted, 104 West Fifth street, for some years a practicing physician here and later principal of the Muscatine high school, passed away at 10 o'clock this morning at the University Hospital at Iowa City. His mother, Mrs. W. L. Cope of this city, was with him at the time of his death.

He had been in failing health for some years. He was forced to give up his practice because of physical incapacity, and later recovered to the extent that he accepted the principalship of the local high school.

He underwent a number of operations in the hope of regaining his health. The last operation was performed at the Iowa City hospital one week ago.

Following his graduation from the college of medicine at the University of Iowa, he entered upon the practice of that profession here.

When he was forced to resign from the local school because he found the responsibilities of that position too taxing on his limited physical powers he accepted a position as physician at the Clarinda, Iowa, hospital. His condition became serious about six weeks ago and he returned to Muscatine. Last week, following consultation, it was decided that another operation was imperative and he was removed to the varsity institution.

Dr. Husted is prominently known in Muscatine. He spent the greater part of his life here.

While connected with the local high school he was particularly interested in the welfare of the boys and took a leading part in scout work.

He was a member of Trinity Episcopal church.

The remains were brought to Muscatine for burial. —Muscatine Journal and News Tribune.

Dr. Carl Anderson Arnold, died at his home in Des Moines, April 4, 1921, aged thirty-one years, from tumor of the brain. Dr. Arnold was born at Warren, Pennsylvania, September 16, 1899. He was a graduate of Drake University, Class of 1912; and of Washington University Medical School, St. Louis, 1914, and did post-graduate work at Harvard Medical School in 1920. He was a member of the Union Park Methodist Church, Des Moines, and of the

(Continued on Adv. Page xvi)

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OBITUARY

(Continued from Page 226)

Brotherhood of American Yeomen, Polk County and Iowa State Medical Societies, and the American Medical Association.

Dr. Arnold's integrity of character, his interest in all things that contribute to the uplift and well-being of mankind, and his affability endeared him alike to patient, friend and colleague. His untimely death at the beginning of a useful life is mourned by many.

He is survived by his father and one sister.

Resolution passed at the meeting of the Polk County Medical Society held May 31, 1921

Whereas, Divine Providence has removed from our membership by death our beloved friend and associate Dr. Carl Anderson Arnold.

Be It Resolved, That in his death this Society has lost one of its most promising and brilliant members. We shall miss his gracious smile, his warm friendship, his fraternal interest.

We desire to extend to his family our regret at their loss and assure them of our deepest sympathy in their bereavement.

Be It Resolved, That a copy of these resolutions be sent to the family, the Iowa State Medical Journal, and a copy be spread upon the permanent record of this Society.

M. L. Turner,
Nelle S. Noble,
R. R. Snyder,
Committee.

MARRIAGES

Dr. W. F. Skelley and Miss Ella B. Gilroy of Davenport.

Dr. Frederick Howard Kelley of Goldfield and Miss Lillian Ida Isch of West Bend, April 15, 1921.

Dr. C. F. Osborne of Hampton and Miss Anna Cronin, also of Hampton, April 12, 1921.

Dr. Allan Gordan Feller and Miss Mary J. Reynolds of Oskaloosa. They will make Van Meter, Iowa, their home.

MME. CURIE'S FIRST AMERICAN CONTRIBUTION

The July issue of the Medical Review of Reviews will contain a lengthy original contribution by Mme. Curie entitled "The Radio Elements and Their Applications." It is, we believe, the first and only contribution which this noted scientist has made to an American publication and is extremely valuable. A copy of the July issue containing it will be sent gratis to any physician making the request.

Address the Medical Review of Reviews, 51 East 59th street, New York.

BOOK REVIEWS

A TEXT-BOOK OF THE PRACTICE OF MEDICINE

By James M. Anders, M.D., Ph.D., L.L.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania; Fourteenth Edition, Thoroughly Revised with the Assistance of John H. Musser, Jr., M.D., Associate in Medicine, University of Pennsylvania. Octavo of 1284 Pages, Fully Illustrated. W. B. Saunders Company, 1920. Cloth \$10.00.

The rapid development of the science of medicine has made it necessary to publish new editions of standard text-books with increasing frequency. The author, and the previous editions, are so well known that no introduction is necessary, and we shall only mention some of the particular things that have been brought out or modified.

The World War has had an important influence in amplifying certain facts in relation to certain diseases. Typhus Fever, Cerebrospinal Meningitis, Pneumonia, Exophthalmic Goitre, Tuberculosis, Diseases of the Heart, Nephritis, Focal Infections, and some other diseases, that a new edition seemed called for. The opportunity to study certain forms of disease under unusual conditions gave experienced internists a new insight into facts of special importance in the study of disease in relation to which the last word had been said.

The study of syphilis has received a new impetus because of its relations to many forms of degenerative disease and we have a wider conception of the heart and its diseases of which there has been of late, great opportunities for study.

LABORATORY MANUAL OF PHARMACOLOGY MATERIA MEDICA, PHARMACOPÆDICS AND PHARMACODYNAMICS

By A. D. Bush, B.Sc., M.D., Professor of Pharmacology, University of North Dakota. Illustrated with Full Page Plates in Many Colors. F. A. Davis Company, Philadelphia. Price \$3.50 Net.

The purpose of this book is to furnish a manual for students in pharmacology and to this end charts are formulated which may be filled in for the study of materia medica and the pharmacological preparations including the therapeutic application.

In part second, we find a discussion including charts for experiments on animals.

The student in pharmacy may find in the manual, a valuable guide in the scientific study of medical substances, their preparation and their affects.

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No. 7

THE RELATION OF THE FAMILY DOCTOR TO THE SPECIALIST, THE GENERAL PUBLIC AND THE FUTURE OF MEDICINE IN IOWA*

DONALD MACRAE, JR., M.D., F.A.C.S.,
Council Bluffs

Members of the Iowa State Medical Society—

Your President offers this seeming complex subject for your most earnest consideration, not with a view to simply relieve himself of the annual obligation as the head of your organization, nor of offering any original thought; but rather to cover as briefly as possible a few of the outstanding and vital problems confronting the profession today. Problems which, if left unsolved may jeopardize the future of medicine as well as the health and happiness of mankind.

As President of the Iowa Society, I shall attempt to discuss the various subjects from an Iowa viewpoint for the following reasons.

First—We are familiar with the situation.

Second—As members of the American Medical Association we should be interested in the conduct of all states, but, the responsibility of obligations to the citizen and to ourselves in this particular commonwealth rests upon the shoulders of the Iowa profession.

Third—Geographically, on account of our large rural population and small cities, problems to be solved, differ materially from those confronting the more densely populated centers of the East. Again, the State of Nevada, for instance, with a small population scattered over a very wide area, presents quite another kind of problem to solve, if proper medical attention is to be received by her citizens.

"The General Practitioner"—Much has been said and written of late concerning this prehistoric bird, as some seem to class him.

Iowa still boasts of her many conscientious general practitioners and yet, we must view with alarm the gradual decrease in their numbers. The

young men are flocking to the cities, only the older ones remaining in the small villages.

Dr. Sampson, (Creston), makes the following observation:

"MEDICAL PRACTITIONERS—In 1918 Iowa had 4004 registered practitioners of medicine, of whom approximately 3600 are in active practice and 3000 are general practitioners. This would be one doctor, to every 800 population. Here again the distribution bears interestingly on our problem. In our cities, such as Des Moines, for example, there is one doctor to every 420 population, while in some of the rural counties the ratio is as low as one to 1100.

"Another interesting fact is the high average age of doctors practicing in less densely populated regions, and where hospital facilities are lacking. In sixteen agricultural counties studied, the average age of doctors in towns under 2000 population was fifty-two years, while in other localities studied, where hospital service is provided, the average age of the doctors is forty-six years.

"In three adjoining counties of southwestern Iowa, the average ages of resident doctors are as follows: County No. 1, average 57 years; county No. 2, average 58 years; county No. 3, average 47 years. (County No. 3 has fairly adequate hospital service).

"Problems relating to the development of efficiency in medical practice in Iowa are over 75 per cent rural. How are the smaller towns in Iowa to be made inhabitable for the modern model of medical practitioners?"

Dr. Sampson's answer to this, is community team work, with co-operation of doctors and laymen in the building of laboratories and so forth, for the proper detection of disease.

With this program of Dr. Sampson's, I am in perfect accord. However, there is another phase of the subject which must not be overlooked. I refer to that human instinct of pride and ambition, born in the soul of the real man to do things. The general practitioner of today, especially the younger man, is dissatisfied with rural practice.

*President's Address, Iowa State Medical Society, May, 1921.

The general discussions of medical subjects in journals and societies, tend to increase the irritation, and lessen his respect for his associates and himself, and finally, discouraged, he moves to a large center and becomes a "specialist," or falls in a "rut" and remains there.

What is the result in this particular case? The answer is—the city, already over-crowded with specialists, gains little, while the village loses all.

In addition to Dr. Sampson's desire to place in the hands of every community, the laboratory and other equipment necessary to the proper diagnosis of disease, the general practitioner, I am convinced, must not underrate his own latent power, which now seems to be the case.

Has he forgotten the history of medicine? Without extensive laboratory help, medical men of the older day worked with their brains, assisted by their eyes, ears and sense of touch, yes, even their sense of smell. These men studied cases, noted symptoms, co-ordinated the various phenomena, divided and classified their meaning and named the diseases with which we are familiar today.

What claim has the specialist to prior right as off-spring from men like Hunter, Harvey and Jenner? Who performed the first ovariectomy in this country other than Ephraim McDowell? Marion Sims and his persistent efforts leading to a successful operation for vesico-vaginal fistula is another. Vaughan says, "I have gone quite thoroughly through the literature of cerebro-spinal meningitis in this country during the first half of the 19th century, and if there was a contribution made on this subject, by a physician living in a town of more than 10,000 inhabitants, I have failed to find it." In this article Vaughan gives the names of a large number of general practitioners living in small towns, a few in the most remote corners, whose writings and observations then, are responsible for our understanding now.

I could fill these pages with the names of general practitioners from small villages, whose contributions to medicine have made possible the work of today. I cannot pass this phase of my paper without a word for one, now gone to his eternal rest, whose teachings and mechanical devices saved the lives of hundreds of thousands of men on the battle fields of France and Belgium, and "lest we forget," those heroes now resting—

"In Flanders Fields where the poppies blow
Between the crosses, row on row,"

who died before England awakened to the importance of the Thomas splint. This man was

Hugh Owen Thomas, born 1834—died 1891. Thomas really conceived the idea of the splint from his father, a mere "bone setter," who had never seen the inside of a medical college.

We all recognize how the rural physicians in the new era are handicapped by lack of laboratory, diagnostic and treatment facilities. We know, too, the effect it is having on their patients, but we do not "over play" the slogan "no one man can handle the situation." Is this phrase correct in every particular? Does it not have a depressing effect upon the general practitioner? Has not the laity been impressed too often with statements tending to lessen the importance of the general practitioner in his community?

The writer, born in Iowa, corn fed since the cradle, and for thirty years (ten of which was general practice) in direct contact with the so called family doctor, both of the old and new type, should be in a position to offer his views reasonably intelligently at this time. Graduating from the University of Michigan, where at the time, they taught men the principles and practice of medicine, I returned to Council Bluffs, where I became associated with my father, himself a general practitioner. When the Omaha Medical College (now the College of Medicine University of Nebraska), was established, my father was made, first, professor of surgery, later professor of gynecology, and finally professor of theory and practice of medicine, and dean of the Medical College. He was the first to perform an ovariectomy in Western Iowa.

His obstetrical forceps were the first in the territory in which he worked. I hope the society will pardon these seeming personal references to my dear father, when I tell you it is the meat of the message I wish to offer for your consideration.

How few modern teachers of surgery in our leading colleges now, could suddenly be transformed into a teacher of medicine, even if taught today, as it was then?

Are the medical colleges today teaching men to observe early symptoms on the living body?

Are the medical colleges teaching students to be general practitioners for the rural population of Iowa?

Are the young men of today flocking to the already over crowded cities, merely because they want to become specialists? Or is it for the reason that they are over trained in technical laboratory ideas, and unable to stand alone, and study the human body in the early stages of disease, when no laboratory technique could divulge the

secret? These questions should be answered by the Iowa profession.

Sir James Mackenzie points out the importance of, (1), the recognition of the diseased state before it has produced gross structural change, and (2), the condition that predisposed to, or induced the diseases.

In his opinion, laboratory methods render little help in detecting disease at the early stage. "Such means for instance, as the x-ray, may reveal disease when it has destroyed or altered structures." The microscope may reveal a germ that plays an active part, but it cannot reveal the symptoms which the germ produces, nor the conditions that favor the entrance of these germs, nor indeed, the fact that the man is ill. It is the physician who is called, who should recognize the symptoms provoked in the early stages."

Mackenzie questions the present day methods of teaching students to become general practitioners in medicine. He considers the college that fails to recognize the necessity of teaching the signs and symptoms of disease in its early stages, by constant observation of the patient, before his tissue changes have reached the laboratory stage, as leading to "dangerous complications, affecting not only the patient, but the profession as well."

I was deeply impressed, while serving in an advanced hospital in France, with the necessity of having the best surgeon in the receiving ward. It was his duty to examine the wounded immediately upon arrival. No time must be lost to classify the patient. This soldier for immediate operation; the next, for transfusion and shock ward; the next, a slightly wounded, to be held and sent to the rear, to an evacuation hospital; a fourth sent to splint team; a fifth to a maxillo-facial surgeon, etc., etc.

This man was called a triage officer, whose sole duty was immediate classification of cases. He performed no operations, nor did he treat cases. Thus it happened that the life of the wounded soldier depended to a large extent, upon the orders of the triage officer. I was impressed also, at this time, with the similarity of position of the trained general practitioner in civil life; that he should be the best man, for upon his advice, whether he treat the man himself, or transfer him to a specialist, oft times depends the life of his patient.

During push times in the war, the various surgical, and splint teams, were standing at their tables for twelve hours without rest. These officers could not run about selecting cases for

their own department, therefore the presence of the triage office.

Is not the specialist in a similar position to the war surgeon at the table? Could each specialist run about the country hunting for his particular victim among the hundred of sick in his community? Is not the general practitioner, after all, the most important man in our profession?

Should he not again agree with Mackenzie when he calls attention to the reverse being true in the teachings of the medical schools of today. He says, "in hospitals where all instruction in clinical medicine is given, the patient in the early stages go to the out-patient department.

"Common sense would say that here, where signs of the disease are most difficult to make out, and the hope of cure is at its highest, the most experienced physicians would be employed, and that all the aids of laboratory technique would be at hand to help in the recognition of the disease.

"In no teaching institution is this ever done. Here, instead, is placed the youngest member of the staff, lacking in experience, ignorant of the meaning of the signs, and incapable of eliciting them. He searches carefully for physical signs, and if there are none, the patient is either discharged with a bottle of physic, or told to return from time to time, until a physical sign is discovered, then, and not until then, is he sent to be under the care of the skilled physician; and then, and not until then, does he receive the assistance of the laboratory in his examination.

"On the other hand, in the wards, when disease has advanced so far as to produce demonstrable signs of disease, mostly easy of recognition, we have the trained teacher, the research student, and all the paraphernalia of laboratory assistance."

In army language, then, the triage officer of our teaching hospitals, (according to Mackenzie) is not the general, all around best man, but the opposite.

Perhaps Mackenzie's criticism is too scathing. However, words from this man, consulting physician to the London hospital, should not be cast aside without serious thought on the part of all those interested in the future of medicine.

I will grant the contention of some, that the laboratory, with expensive and complicated accessories, has a tendency to lessen personal efficiency, only, if the doctor is not willing to study his cases from every view point, before the laboratory is called in—I refer to the early manifestation of disease.

Suppose each case was examined thoroughly by one competent physician, using the ordinary blood and urine tests, easily executed—how many patients would this triage officer find it necessary to send to a specialist for diagnosis?

Are we making these examinations?

There is one thing certain, if the doctor fails to study the history of the patient and does not look for, and observe the signs and symptoms of disease, he not only fails in his duty, but by such neglect, decreases his powers to appreciate more dangerous symptoms when they arise.

Why, in some rural (and city) communities in Iowa, are the sick receiving thorough personal physical examination from their physicians, while in an adjoining county the most superficial "once over" is rare?

To the man who says, "he has not the time," "he is too busy," etc., my answer is, he is no better than the osteopath or chiropractor, and like them, is not only obtaining money under false pretenses, but jeopardizing the lives of his patients as well.

A few have told me that a thorough examination would not be possible, for the reason that the time consumed, and the small fees collected in his community, would pauperize his family. Here a very serious condition presents, which calls for some action on the part of this society to study, and offer means of relief.

The writer is satisfied that one great obstacle, if removed, would help put the general practitioner where he belongs, I refer to larger fees. It is the fault, not so much of the community, as the doctor himself. The general practitioner should charge for his services per case, or examination—give the patient what he deserves, and charge him the amount he should pay. Thus, for instance, the doctor, giving his best services, requiring much time, should charge accordingly, provided the patient has the means.

If, in this instance, many sick demanding his attention, awaken to the fact that this doctor is too busy doing the right thing, to receive his attention, then and then only, will the laity become educated to the fact that it must offer better inducement for another physician to locate there.

Thus, two physicians, doing the right thing, receive greater financial benefit, allowing of greater opportunities to study and keep abreast of the times. In other words, two excellent physicians are developed, the healthy layman has received a new respect for the doctors, while the sick have 100 per cent service.

However, it is the writer's belief, that only after a period of years in the hard knocks of gen-

eral practice, where nature may be studied in all her wonderful manifestations, in health and disease, can the finished product be developed, except in rare cases.

Herrick says, "other things being equal, the best specialist is the one who develops from the general practitioner. I assume previous high grade college degrees, a service as an intern, a studious, progressive mental attitude during the years of practice."

The author could name a number of young graduates "existing" in a city near by his home, who are located in beautiful offices, furnished on borrowed money, with signs proclaiming to the public "Surgeon," "Gynecologist," "Internist," etc., who have not seen a patient in weeks. Some of these men have never examined a sick man early, suffering from any disease, have never independently treated a case of whooping cough, typhoid fever or pneumonia.

On the other hand, a number of good towns in Iowa and Nebraska, cannot boast of a single doctor. What is wrong? Is this the way it should be?

I believe exceptions should be made in the case of some "specialist," for I am apt to forget they are doctors. I refer particularly to the roentgenologist, the laboratory chemist, bacteriologist and pathologist.

These men do not "doctor" people. They are indispensable, but I would class them with the x-ray machine and the microscope, themselves simply a human means to a proper mechanical manipulation of an instrument, and the interpretation of their findings. In other words, the x-ray machine is valueless without a trained operator—on the other hand, the operator is useless without the machine. I do not wish to be misconstrued in my position. I am of the opinion that general practice to these men, would be detrimental rather than beneficial. The laboratory man can only be taught in the laboratory, and he must not allow anything to interfere with his practice after graduation, otherwise he falls back.

The gynecologist—gynecology, except as a term to describe a division or classification of surgery, for the purpose of teaching in medical schools, is the only excuse I can find for the recognition of such a specialist—at least in Iowa. I have never in my experience, after years of observation in the clinics of Iowa or Nebraska, witnessed the spectacle of a gynecologist passing up a gall bladder or appendix. Have you?

General surgery should cover the entire field

of the abdomen in both male and female—at least in Iowa.

The general surgeon is a necessity in every community.

What is a specialist? Who determines his qualifications? Can one be made “over night?” Is he necessary? Here again the Iowa situation differs from some others, and these questions should, and must be seriously considered, and answered by the Iowa profession, and I know of no other instrument more capable of solving these problems, than this exceptional body of men and women.

The genito-urinary surgeon (and why he tacks on “skin diseases” is more than I can understand, unless all skin diseases are due to syphilis), is necessary largely for the reason of his experience in manipulating the cystoscope, passing the ureteral catheter, and his ability to interpret the findings.

In Iowa he is not absolutely necessary in every community, but should be within reach of the general practitioner who desires his services.

The orthopedist in Iowa, of course, is indispensable, but we should have just a few well trained men within our borders, evenly divided and within reasonable access to each district.

The very large percentage of ordinary orthopedics, not requiring special appliances and long time hospital treatment may be cared for satisfactorily by the general surgeon or practitioner, unless an orthopedist happens to reside in one's community. To my mind this is an important point. To avoid competitive medicine, necessary specialists should be encourage to locate in communities; and once located, every effort should be made to aid him in every way.

The general practitioner or other specialist, should not attempt to hog the other's special work, otherwise the latter cannot exist, and without him the community suffers, as it is doing today in many districts.

The internist, so-called, is an important addition to the professional family. This physician, however, seldom sees a case until functional or pathologic tissue changes have taken place. He must be a thorough student, a man of keen intellect and a close observer. His duty should be largely that of an expert diagnostician, thoroughly versed in laboratory technique and pathology, as well as an interpreter of signs and symptoms of disease. In addition, he should be an up-to-the-minute man in advance knowledge of medicine and surgery, as it relates to diagnosis. The study of the internal secretions should attract his special atten-

tion. In fact, he should be the finished product, the captain of general practitioners.

To him the general practitioner may refer his unusual case, requiring more exclusive study. I am satisfied the internist, as well as the general practitioner, should follow his patient, even to the operating table or post-mortem room, thus, I am sure, this specialist would soon have a greater respect for the diagnostic ability of the surgeon.

Eye, ear, nose and throat—Each community in Iowa should, of course, have access to this specialist. I hesitate to even suggest the advisability of a more conservative position on the tonsil question. My feeble position is taken as the result of observation of numerous children sent to my office for throat examination. Many of these youngsters are perfectly well, with not a sign or symptom of disease, no history of throat trouble, and on inspection, no pathologic conditions are to be seen. When I ask—why did you come to me? The answer is—“the school nurse said I must have my tonsils cut out.”

It is evident to the writer that the legitimate specialist is absolutely necessary, if properly placed, to serve the general practitioner and the public. But he cannot stand alone. He often requires the aid of other specialists, in order to arrive at a scientific conclusion. In this respect, he is like the general practitioner.

If this contention is correct, the slogan, “no one man can master the situation alone” is true, but it refers to the specialist and the “group,” when the latter is of the “primitive” type, as well as the general practitioner.

Groups of specialists too often hypnotize themselves into the belief that they have accomplished the desired end of perfection, in relieving suffering humanity, but are they justified in this? Would a phrase—No group of specialists is capable alone, of managing the practice of medicine—helps us to the realization of the fact that the general practitioner is absolutely essential to the chain necessary to deliver service to suffering humanity in Iowa.

Thus far, I have attempted to point out the importance of backing up, as it were, the conscientious general practitioner of Iowa in his efforts to relieve suffering humanity, and at the same time “bolster up” his morale, by citing instances of small town men and their contributions to medicine.

My efforts to bring out the small town man to the fullest realization of his latent power, is not a criticism of our brother in the large cities, but rather to teach the former, and with him the community in which he lives, that he is just as good.

I remember some twenty-five years ago the laughter produced at Philadelphia clinic, when I told those present of a certain county doctor, friend of mine, associated with his father and brother, who are doing things up in a cross-roads town in Minnesota. Today is there a teacher in Philadelphia unacquainted with this "village" and the "little" hospitals these small town boys have built? Suppose this same William was graduating today from our laboratories, would he have located in the cross-road town?

These men have pointed the way to us. We have a hundred Williams and Charlies in Iowa, but they don't know it. Why?

My answer is: 1—Too much jealousy and competitive medicine.

As a result: 2. Lack of co-operation.

Which means: 3—Poor hospital and laboratory facilities and no special men.

W. J. Mayo says: "It is well for America, that the medical profession has recognized the necessity for organized scientific effort, which is taking the place of former competitive medicine. Competitive medicine fosters self sufficiency and jealousy, etc."

This brings us to the "group" question and to the advisability of the closer association and co-operation of physicians in a given community.

Unless this is soon accomplished, state or federal control is sure to come, with all its evils, not so much to the detriment of science alone, but to humanity as well.

It is unnecessary to describe the dismal failure of this plan "made in Germany" with which you are all familiar, and now England, after several years of most unsatisfactory conditions, is having the same experience.

A bill in the N. Y. legislature, copied after the panel act of England, will probably pass. Industrial insurance of all kinds is even now at our own doors with all its pernicious influences, permeating the very fabric of society. A few great railway corporations, are furnishing "free health insurance," and "free" treatment to their employes, at 50 cents per head, per month, and others are soon to follow.

The laboring man and mechanic is swallowing the bait, hook and line, the general public, ignorant of the evil consequences of such practice, is applauding this most beneficent (?) move on the part of the "large interests."

A propaganda in favor of "free" clinics, "free treatment," "free medicine," for every body is now quite the style. Can it be that a movement is on foot to give free education to the medical student, free board and room, free x-ray ma-

chines, free meat and potatoes" free automobiles in which to make his calls, and free living for his family? If not, how in God's name is the physician to become educated; how is he to exist, and progress, and hold his self respect, not to mention the effect on the future of medicine, upon which after all, the health and happiness of mankind largely depends?

Let us hold a consultation over these signs and symptoms of the times, and let us examine its case, after which I beg to be permitted to suggest the cause, prognosis and treatment.

It is up to you men and women of this society to agree and follow the line of treatment, or disagree and reject the advice.

Chief factors producing the conditions:

Factor 1.—Ignorance, indifference, complacency, jealousy, hoggishness, fee splitting.

This condition fosters indifference in hospitalization, laboratories, etc., is purely individualistic. Few men suffering from these diseases ever attended medical meetings.

Factor 2.—Insufficient hospitalization of communities; imperfect laboratory facilities and expert technicians; deplorable lack of interest due to ignorance of conditions on part of county supervisors; cost of multiple examinations by experts and hospital treatment, excessive for the ordinary man; lack of co-operation of physician and public; lack of community interest; ignorance on part of public; indifference of churches in manifesting evidence of practical religion in their respective communities; defective medical education.

Symptoms:—Negative in certain communities. Some however, show signs of inertia, possibly hook worm, but not hopelessly disabled if proper treatment is instituted.

If not treated intelligently, conditions will grow worse in the hook worm districts, and sooner or later, the whole state may become infected, in which case state or federal control of medicine is sure to come, which means death or permanent disability of the medical profession, and added suffering for humanity.

Treatment:—Practical organization of the profession. Education daily for profession and layman. Co-operation, continuous day and night for community interests.

Results to be expected:

1. Each county can have a hospital equipment, if the people are prepared by education before the vote. ("An excellent county hospital law has been in force in Iowa for ten years—only nine of the ninety-nine counties have voted on the

proposition to issue bonds, and in five of these the proposal was defeated."—Sampson).

2. Several adjoining counties may combine its community interests, which would probably be more effective in certain districts.

3. Group community co-operation of physicians.

4. The erection of laboratories in each community.

5. Development of highly trained professional men acting in teams exacting moderate fees from those in moderate circumstances, and as before, offering their best services, without thought of financial gain, to the deserving poor.

Dr. Sampson, alone and unaided, at first at least, delivered the goods in his community. If other communities, through co-operation of several physicians, fail to bring about similar condition, it is their own fault.

I thoroughly agree with Sampson when he says: "For many years it has been the writer's contention, that any difference between the quality of medical and surgical service rendered in Iowa, and the best rendered any where on earth, was from lack of material equipment and organization rather than from lack of mentality or sincerity on the part of Iowa doctors."

I might add the old saying, "In the East it is the big hospital that makes the little man big, in the West it is the big man that makes the little hospital big."

Ladies and gentlemen of the Iowa State Medical Society, are you sufficiently interested in the human beings in your community to give them the best service on earth?"

Do you wish to advance and keep abreast of the times, not only for your self satisfaction, but for the benefit of your patient?

Do you want hospital and laboratory service within easy access?

If so, you can have it.

Let us put the Iowa medical profession on the map in the same column with the churches, schools, corn, hogs, cattle and chickens, but let us place health and life first, and thus make Iowa indeed, and in fact, the greatest state in the greatest country in the world.

In order to make the ideas advanced in this paper effective, if you so desire, it will be necessary to get action on some definite plan at once. As I have said in the beginning, these thoughts are not written simply with the idea of getting the annual address off my chest, but with the end in view of having produced some practical constructive movement to advance the "county doctor" to a higher grade, and give the same

service to the inhabitants of the rural districts of Iowa as is given to the people of New York and Philadelphia.

Therefore, I wish to propose the following plan:

That the president appoint a committee of three, consisting of himself and two others, to consider the advisability of procuring the services of a high grade man of state or national prominence, to act as director of the Iowa State Medical Society, and who shall devote his entire time under the direction of this committee, to further the interest of the medical profession and the welfare of all, but particularly to the rural population of the state of Iowa.

Resolution

Whereas, We recognize the importance of preventive medicine, and

Whereas, We believe in a larger measure of participation on the part of state and county medical societies in public health movements,

Therefore, In order to fulfill in these respects both our desire and our recognized duty.

Be It Resolved, That it is the sense of this Scientific Section of the State Medical Society that a state director of field activities be employed either on full or part time. That among his duties shall be to perfect the organization of county societies, to stimulate such societies to greater activity along public health lines, to effect cooperation between such societies and other organizations in the community, to cement the relationship between county medical societies and the State Society, to establish a better means of communication between the State Society and the County Societies, to prepare publicity matter and to secure proper publicity along public health lines and matters of general policy and legislation, and to act as agent for the legislative committee of the State Society in securing needed legislation, both on public health matters and by education in preventing the enactment of harmful measures.

And Be It Further Resolved, That we hereby recommend to the House of Delegates that at its meeting on Friday, May 13, it authorize the incoming President to appoint a special committee, of which he shall be one member, such committee having the power to act in carrying out the above purposes including the selection of a suitable man either on full time or part time, and he to work under the direction of the Committee.

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SYMPOSIUM ON SURGICAL DIAGNOSIS PART I. CASE HISTORY*

O. C. MORRISON, M.S., M.D., Carroll

An unparalleled advancement in the common interests of medical education and hospital standardization has come about during the last ten years. Credit is due to the untiring efforts of those men who represent the interests of the College of Surgeons. No decade in history carries the stimulus for hospital betterment which surpasses the present decade. The introduction of bacteriology was without doubt, the climax in medical advancement, in so far as the benefit to the general public and health welfare is concerned. It is truly a wonderful thought when we think of the great hospitals of our continent drawing up into the line of a common minimum standard. The commanding officer of this great line representing the interests of surgery, medicine, obstetrics and all the tributary branches, together with the health administration of a continent, is common consent. No greater power is vested in any society of men than common consent or pure democracy. This common consent has been fostered for years in the minds of our great leaders and finally found expression through the instrumentality of the College of Surgeons. Through this means, the hospitals of over one hundred beds have been vitalized to feel the keen responsibility of their full duty to humanity. They realize as never before that one hospital cannot be czar nor emperor. A common minimum standard must come as a basis for advancement. Common consent suggests a common standard for the hospital, for the surgeons, for the staff of that hospital, for the laboratories, training schools and most of all, for the case records of every individual patient, that common democracy may be the result of our labor and that the best may be had for the weakest and poorest of our Commonwealth.

Some two years ago, the secretary for the College of Surgeons had a summary made of the clinical case histories of the hospitals of one hundred beds and over in order to learn the status of this work as being done in the many hospitals on this Continent. The report was startling indeed. This searchlight found many hospitals with no stand-

ard whatever; in many the standard was questionable. In order to have the essential benefit of case histories for this group of hospitals it was necessary for the College to prescribe a minimum standard to which all hospitals of one hundred beds or over, are asked to subscribe their good will and sincerity of purpose. The case history has received more emphasis than any other branch of hospital work. The staff formation is very flexible. Clinical laboratories have a wide range of variation and the division of fees somewhat emphasized. The case histories must be up to standard without variations or equivocations. We can find much interest and instruction in developing the college plan.

The college plan is of a minimum type of the most excellent variety. Out of the 671 general hospitals of one hundred beds and over on the Continent, it is estimated that 468 do not measure up to the minimum standard in clinical case history taking, nor in general efficiency. In order to be fair and establish the truth the committee compared one hundred case histories of appendicitis of two different institutions.

	No. 1	No. 2
A. Complete physical examination, blood count and laboratory data.....	100	14
B. Number of consultations held in the 100 cases	41	2
C. Clinical histories completed before operation	100	0
D. Incorrect diagnosis	1	14
E. Progress notes recorded by surgeon....	100	0
F. Operative infections	3	12
G. Number of patients relieved.....	94	77
H. Mortality	3	9

This little resume is typical for the entire group. If No. 2 can be brought to No. 1's standard by effort, the effort will save the life of six people; relieve seventeen others; will correct the diagnosis in thirteen and make better surgeons of every member on its staff. Should we be interested in how to get better clinical case histories? The College has left us to draw largely upon our own ingenuity, providing we retain the general plan. The plan for eliciting a case history and the type of history is what we shall consider together.

St. Anthony's Hospital at Carroll, Iowa, has a closed staff. The patients who are admitted, (so far as my work is concerned) are referred to a capable and able internist, where a very searching history is elicited by the internist himself and not by any assistant or nurse. The question comes, "Who shall elicit the history of the patient that is to go to help make up the case record or history? Shall the intern, a nurse, a sister, an anybody?" No, never. Case histories should be written only

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by a trained internist, or a trained surgeon. Every case admitted to my service has been carefully gone over previously by the medicinal department. Our medicinal wing or department admits all cases except O. B., contagious, and acutely emergency surgical cases. The case history consists of eight sheets all of the same size and with binding edges at the left of the sheet that they may be bound.

Sheet No. 1. This sheet is for the orders of the attending physician. The date and hour of the order, standing orders, special orders and diet. This sheet should be bound as the record of orders is important.

Sheet No. 2. This sheet the nurse uses as a daily sheet to show what she has given the patient and is used as a daily record. It is not filed with the case history when the patient is dismissed because of the volume of the record. For that reason we have the nurse fill the important part of the record upon the temperature sheet, which is:

Sheet No. 3. This sheet carries the daily record of pulse, temperature, respiration and all the important daily data from the nurse's records.

Sheet No. 4. Personal history. This sheet is completed by the internist in the most careful manner. His name, age, race, nationality, entrance complaint; history, (a) social, (b) family, (c) past medical, (d) history of present illness. This sheet is kept confidentially by the internist and is not open to the inspection of anyone excepting the physician in charge. Every physician should emphasize the confidential protection of the patient to the nurses and have them help safeguard this part of the case history.

Sheet No. 5. Contains all of the physical findings of the internist, together with his clinical diagnosis, clinical pathology and treatment.

Sheet No. 6. Is the clinical laboratory reports of all laboratory findings. This sheet should be safeguarded from undue publicity, except for those in charge. The reasons are obvious.

Sheet No. 7. Is an x-ray sheet which carries all the instructions to the roentgenologist and his report.

Sheet No. 8. Is the anesthetic record kept by the anesthetist. Time of operation, kind of anesthesia employed, etc.

These sheets are completed when the patient leaves the hospital. The nurse in charge of the floor takes them to the recorder's room where they are indexed and filed. The object of indexing is two-fold; for handy reference and for study of clinical pathology. They are numbered twice, (a) entrance number, (b) serial number. A

card is filed, in the handy reference file, of all these cases carrying reference to both entrance and serial number so that the history is easily available. This file has the names alphabetically of the cases, principal disease, complaints, operated or not, age and condition when discharged, also reference to the follow-up card case that keeps a record of each case with a quarterly report of the patient's condition during the first year after the operation. The average surgeon is a very busy man and does not have the time to follow all the details of case histories. At Carroll, we have a sister who devotes her full time to detail work of compiling history records. She is our hospital case history recorder. I cannot emphasize the importance of case histories too strongly. Our case history is a positive index to the character of the work we do for our patient. It is the safeguard against partiality as every patient gets the same consideration. The many hospitals are trying to have the laboratory charges so fixed and provided for that they will be available to all, and seems very logical. This would necessitate a great deal of time and help and some means of general charge would have to be made to care for it. The case record has been slighted very much in years past, in fact it has not been developed. Commercialism was the basis of most of the hospital records. The plan proposed is a purely scientific resume of the proceedings of the case while under our care. It necessitates much work and does not net the hospital any cash dividends so to speak.

RESUME

A. The proposed plan stabilizes our hospital aspirations of development into a well known common plan.

B. It assures every patient a careful, sincere and competent treatment regardless of his station in life.

C. The hospitals have an orderly, carefully kept record of all the scientific and medical analysis done by any worker under its jurisdiction.

D. It will have a tendency to disseminate a thorough analytic working plan to every general practitioner who will in time render society a greater service by sending the surgical cases at a redeemable hour.

E. It will stimulate every hospital to a consciousness that wisdom, vigor and ability is endemic in the virgin soil of rusticism.

F. Again, may we draw out the last drop of the life's blood of inpercision and dogmatism and indifferent carelessness in case records and transfuse therein, carefulness, wisdom, honesty, scien-

tific deductions, careful recording and tenderness of conscience.

Discussion

Dr. Wm. A. Rohlf, Waverly—I heartily second the importance that the essayist has given to the keeping of records. The experience that we have had along that line in our little hospital at Waverly has not extended over a long period of time, but for about a year we have tried to follow out a plan of keeping records something like Dr. Morrison has suggested, and I am sure that we have made fewer mistakes and that as a class we have been more careful in going into our surgical work. For instance, we have a routine of testing every case as to the blood coagulability before operation. There is not a case that does not have its blood-pressure taken and at least a white cell count, that does not have a complete and thorough examination of the urine, there is not a case that comes to the hospital now in which there is any indication at all who does not have an x-ray taken. We have a nurse who does the recording, who takes our dictation as to the physical findings and takes dictation in the operating room as to the pathological findings, and then our specimens are sent to the laboratory for the pathological findings there, and all these appear in the records. While at first it seemed rather laborious to look after all these details, we now as a staff are enthusiastic for the detailed records and for the better work that it just absolutely makes us do whether we would or not, because the management of the hospital insists that these records be kept according to the plan the hospital standardization committee has laid out. The expense of the record keeping is prorated and paid by the physicians to have the cases recorded. I do not see why the matter of keeping records should be confined to the hospitals, although, of course, that is the subject under discussion. I am very sure that any and all of us, whether associated with a hospital or not, would become more accurate in our diagnoses and be more interested in our work if we would have a recording system of our own. And it is gratifying to me as I go about the country to see that this matter of keeping records and of being thorough and systematic about it is gaining every day. I am sure that it is a move in the right direction.

SYMPOSIUM ON SURGICAL DIAGNOSIS

PART II. THE PHYSICAL EXAMINATION*

JOHN C. HANCOCK, M.D., Dubuque

While the symposium of which this paper is a part has to deal primarily with surgical diagnosis nothing has been said to indicate that the cases supposedly up for discussion are exclusively those referred by the physician or belong on the face of it to surgical emergencies such as fractures, dis-

location, traumatic lesions of the soft parts, surface infections, etc.

The true medical man if honest with himself will confess to a medical bias just as the surgeon will recognize within himself the surgical bias. The best result for the patient whose welfare should with either specialist be the first consideration is to be attained through the cooperation of both in a large class of cases since more especially of late years surgery has encroached on fields previously regarded as purely medical. In view of the fact that group diagnosis is not as generally practiced as it logically should be although the signs are favorable for the future, the surgeon should approach the diagnosis with a mind as free as possible from surgical bias and be equipped to use whenever necessary the arts and reasoning of the medical man. Neglect or indifference to this principle of ultimate truth seeking has in some respects placed the surgeon in the position of a mechanic. This has led to the differentiation between the true surgeon and the operating surgeon. The latter approaches the case rather from the point of view of determining whether or not a given problem can be technically executed than from that of the ultimate value to the patient of the undertaking per se or in view of conditions complicating the obvious surgical indications—in either event perhaps doing a greater harm than good to the patient and eventually bringing opprobrium upon surgical treatment.

In large and highly organized medical centers, group diagnosis practice obtains as a matter of course, but among the surgeons of the profession of this state it is common to see cases de novo and gather and weigh single handed the evidence in a given case. I hold a case under such conditions should be examined with an open mind for eventualities and the findings dispassionately used. Unquestionably the surgeon should be better trained along surgical than medical lines of diagnosis but the more adept in the arts of medical examination he can become the sounder his diagnosis will be.

One of the ablest surgeons of this country in discussing recently an address on the surgery of the acute abdomen, cited a case of his own in which under stress of extraneous circumstances he removed an appendix only to be advised the next day that the case was one of measles.

Under the rules as laid down the physical examination properly means the information to be derived from direct inspection, palpation, percussion, auscultation and olfaction of the patient's person. It will be fair, I assume, in dealing with

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certain parts of the body to call in for the physical examination other special workers if the evidence to be presented to the reviewing authority is to be complete. I refer to the eye, ear, nose, and throat man, the nerve man, and the skin man and others, as it is humanly impossible for one man to bear in mind all the details for examination, or to perform many of them with adequate skill.

In the time allowed, the scope of the examination must of necessity be a rambling journey of observation from the head to the feet with a side trip down the upper extremity.

At the outset pain is to be considered a purely subjective phenomenon as distributed from tenderness and therefore not part of the physical findings derived from examination, except it be a referred pain elicited by examination. Also, tumor is used to mean swelling whether due to neoplasm, inflammation, or simple trauma.

The cranium, though harboring organs of vital importance, shows on physical examination very little of what is going on within. At first glance one notes the size, shape, and position of the head. The abundance, color, quality and distribution of the hair and the characteristics of the visible scalp. More closely and in early life the suture lines and fontanelles are important in respect to revealing depressions or prominences and have a bearing in determining certain lesions, particularly of congenital but also acquired origin. Discolored tender hot elevated areas are noted as distinguished from discolored or normally colored elevated lesions not showing increased heat with or without tenderness. The consistency may vary from bony hardness to a soft yielding mass, which can be obliterated almost completely on pressure. By virtue of the mobility of the scalp the origin—skin, fascia bone, or intracranial—of the tumor can usually be determined.

Of signs of disease or injury of the bony layer tenderness is not particularly valuable because in case of trauma the violence sufficient to produce bony injury will almost always have produced widely distributed contusion of the soft parts. With simple fissures it is sometimes closely associated. The detection however of simple fissure is usually very difficult. Even depressions may be difficult to detect or to be sure of as the sensation produced by cephalhæmatoma is misleading. In the absence of urgency time will enable the latter to disappear while the former will persist. Abnormal mobility or crepitus especially associated with comminution is significant of injury or necrosis. In open wounds profuse flow of dark blood not accounted for by vessels of the

scalp or meninges points to laceration of the sinuses. Subsequent to the hæmorrhage the escape of clear fluid containing but little albumin and rich in sodium chloride denotes cerebrospinal fluid. Lastly we should not overlook the pulsating soft light colored mass and in case of laceration mistake brain substance for pus.

Following injury to the cranium hæmorrhage from the nose, mouth, and ears must be carefully observed to discriminate between hæmorrhage from basal injury alone or associated with local injury of the nose, mouth or ears. Also, several hours after injury subcutaneous hæmorrhage of the orbit or about the mastoid is of significance.

The injuries and diseases of the contents of the cranium are to be determined by the indirect method of examination. This entails the study of the psychic, motor, sensory, and sympathetic disturbances of function. For results of value in regard to the special senses we must rely upon specialists of the organs involved. So, too, in a case at all complicated the general, as contrasted with the neurological surgeon, must rely upon the special findings of the neurologist. The spinal cord is here included with the brain as far as intrinsic disease is concerned. Disturbances of brain and cord function may through the organs of special sense, the viscera, and circulation be manifold, widely distributed, and intricate. Lumbar puncture findings should, of course, be used.

The general surgeon as opposed to the ophthalmologist on his own account may and should note in connection with the eyes any subcutaneous or subconjunctival hæmorrhage; the reaction to light and accommodation of the pupil; nystagmus; strabismus; disturbance of function of lids, ulcer of cornea and exophthalmos, besides tumors and ulcers.

The ear offers the general surgeon but little information beyond gross defects of hearing, presence of blood or pus and tenderness about lobule and mastoid.

Taste and smell are so poorly classified and so largely subjective that information on these is more particularly a matter of history of the case.

The nose should however be examined with reference to breathing space, hæmorrhage, pus, ulcers, perforations of septum and polypi.

Examination of the entrance to the mouth includes detection of ulcers, fissures, tumors of the lips and their size and consistency; the number; location and condition of the teeth and state of the gums are vastly important and should include a report from the dentist and röntgenologist to be reliable and complete. The tonsils should receive careful examination and to accomplish this pillar

retractors are essential. The casual observation of the tonsils will in many cases fail to show crypts containing caseous or muco-purulent material. Recently islands of lymphoid tissue behind the pillars in a patient whose tonsils had been removed have been the points of entrance of infection developing surgical significance as in purulent metastatic arthritis, etc. Congenital defects, scars and contractions, paralysis, etc., of the soft palate are to be noted.

The larynx should receive attention to the extent of determining the presence of ulcer, œdema, neoplasm or paralysis where a general anæsthetic is administered. It may be interesting to know in connection with a thyroidectomy whether or not a cord paralysis preceded or followed the operation. Familiarity with the pharynx may early direct attention to cervical Potts. The tongue is carefully observed for changes from normal in size, shape, color, mobility, moisture. In this connection the temperature may be taken and the reading interpreted with reference to time of day. Several times I have upon inspecting the patient's chart just before operation, been lead to postpone operation because of an abnormal change of temperature from the day before and I have not had cause to regret the precaution. In this connection I like to adapt a great merchant's adage to mean "it's not the number of cases one operates but its the number one saves that counts."

To one trained to read it the face is a wonderfully illuminating composite of the patient's condition, mentally and spiritually as well as physically.

The face being one of the few exposed parts of the body in the civilized state, so-called, and being directed forward in progression is peculiarly exposed to insult of physical and chemical kinds.

In spite of nature's effort through abundant circulation to protect it, the face is the seat of many varieties of lesions and by virtue of human vanity receives much greater consideration, lesion for lesion, than any other area of the body.

Asymmetry is to be noted and may be either congenital or acquired. The translucency or opacity, moisture or dryness, smoothness and roughness, color, and its distribution to the skin; amount of subcutaneous fat as well as swellings or defects, are points usually taken in at a glance. In the event of swelling, it is important to determine whether the probable origin is in the skin or underlying tissue.

Inflammatory disease is indicated by swollen lips, prominent cheeks and eye lids partially or completely swollen shut. The swelling may be symmetrical or not, the color deeply red with a

well defined line of demarcation. Should the disease process be limited to the skin in connection with a sharp febrile reaction we have probably erysipelas to deal with. Aside from this we must consider periostitis of jaw, suppuration in antrum or frontal sinus, cavernous sinus, thrombosis, and retrobulbar phlegmon. In addition, the characteristics of tuberculosis and other accidental infections must be considered. An acute swelling in front of, below, and behind the external ear must be borne in mind, although parotitis rarely becomes a surgical affection.

Of tumors and ulcers of the face the characteristics of the three principal diseases, tuberculosis, cancer, and syphilis must be constantly borne in mind and when in doubt, the laboratory should be called upon for aid in determining between congenital and acquired diseases. The locked jaw, or risus sardonius of tetanus should not be forgotten.

In examination of the neck one must bear in mind the acts of breathing and swallowing, abnormal openings of sinuses, tumors and abnormal postures of the head and neck.

Hoarseness and dyspnoea point to laryngeal obstruction and according to the history of the case call for investigation by the medical or laryngeal attendant for accuracy of diagnosis. External palpation of the cartilages of the trachea, associated with surgical emphysema, may be sufficient to identify fracture of tracheal rings.

Dysphagia may be associated with causes in the mouth and throat or in or about the œsophagus. Those of the former region have been indicated. In cases of foreign body we may resort to the œsophageal sound, the x-ray and œsophagoscopy. Other intrinsic causes of obstruction as corrosion by chemicals, compression from without as by thyroid or other tumors of the neck must be studied out. The location of the obstruction must be worked out along rational lines as well. Diverticula will at one time allow free passage of the sound and at another will prevent passage altogether.

Glands of the neck are rarely the seat of primary disease and are usually the secondary stage of an inflammatory or neoplastic process somewhere in the field drained by a particular group. By the glands referred to are meant the lymph glands. The rare carotid gland must be borne in mind as a possibility in its appropriate location at the bifurcation angle of the common carotid.

Sinuses of the neck are studied in the light of the history of the case and their position and course. Syphilitic are usually short in course and

duration and have no special predilection of position.

Actinomycosis sinus appears at the surface of darkly colored prominence of skin as opposed to retracted orifice. Also the pus may be mixed with the characteristic granules.

Tuberculous sinuses on the other hand are of long duration and lead to glands or bone usually of the vertebræ. From this granulation and sometimes tubercles can be obtained. The bone sinus is usually situated posterior to the sternomastoid in contrast to the branchial cleft sinus and thyroglossal duct which are anterior to this muscle or near the median line respectively. Further the congenital sinus gives forth a mucoid or muco-purulent fluid. Epithelial cells indicate a congenital origin. A case observed by the writer of thyroglossal duct ejected saliva above his collar and colored hydrogen peroxide solution emerged at the base of the tongue in the median line. Branchial cleft sinus opens at the lateral pharyngeal wall. A sinus from a goitre is usually in the scar of the surgical wound and moves with the thyroid cartilage. Cysts of the branchial cleft, or thyroglossal duct are the only likely tumors to be mistaken for thyroid enlargements.

To go into the diagnosis of all the forms of tumors or swellings of the neck, would reach beyond the time limit of this paper. A tumor moving with the thyroid cartilage is presumably a goitre. If so, it should follow this cartilage in its rise and fall during the act of deglutition. Goitres vary in their consistency from the soft pulsating vascular to the hard calcareous type. The size, shape and position may differ greatly. Unless the lower pole can be clearly defined by the fingers anterior to the goitre and posterior to the sternum, the case should be x-rayed before the operation is undertaken. When large, this type particularly causes dyspnœa. While a goitre is a tumor, it is not necessarily a neoplasm but sometimes is both, and benign or malignant. Either thyroid or goitre may be the seat of inflammation.

Besides the above mentioned tumors there are the lymph glands of leukæmia. The question should not be decided without a blood examination and leukæmia should be suspected upon evidence of hæmorrhage diathesis. Pseudoleukæmia with glandular enlargement of the neck alone may be very difficult to differentiate from tuberculous enlargements in the same situation. The principal diagnostic criterion is the peri-adentis of the tuberculous glands. Pain elicited by percussion over the sternum helps occasionally and when found favors pseudoleukæmia. As a last resort, and one to be encouraged, a gland should

be excised for the pathologist. Aneurism among cystic tumors must be remembered. Finally, the usual benign and malignant solid tumors occur for differentiation as elsewhere.

Before leaving the neck, examination must include abnormal positions of the head. Roughly speaking, with the rigid head straight, a bilateral or median cause must be sought, as fracture or dislocation, or fracture-dislocation of the cervical vertebræ, or osteomyelitis of the same, or an acute inflammatory process, as sore throat. With head turned to one side we think of a sprain if sudden in onset; myositis due to infection; or unilateral dislocation; or occasionally a unilateral spinal caries. A painless neck lacking assignable cause is called for want of a better name spastic torticollis.

Arriving at the thorax we note by inspection any deviation in expansion—the chief characteristic of this part of the body. The walls themselves are simple structures and subject to the usual signs of similar tissue elsewhere. They are governed intrinsically by few peculiarities but are chiefly concerned by secondary effects from disease of the organs within plus the mammary gland especially in the female.

Restricted expiratory excursion on one side associated with distinctly localized tenderness following injury or strain with or without crepitus or painful spot or spots with pressure and counterpressure means a fracture of a rib. Injury may yield in the sternum a fissure with or without abnormal mobility, or localized ecchymoses may point to a probable fissure as the only sign of fracture of the sternum. As this occurs chiefly by indirect violence one should suspect a fracture of a vertebræ and vice versa. Other injuries to the wall are dependent upon the signs of injury to the structures within for their importance.

The mammary gland should always be palpated with the patient in the recumbent and upright positions in the female. In this way its boundaries can be determined, the approximate proportion of gland tissue and fat, any changes in density of structure, areas of tenderness, discoloration of skin covering, demarcation between gland and accessory lobules, between breast and axillary nodules, mobility of breast on chest wall or skin over tumor, while incident to this manipulation the eye will detect changes in or a discharge from the nipple. The two lesions of great concern connected with this organ are infection in the lactating, and malignancy in the quiescent breast, although many other pathological processes occasionally assume importance. It should be borne

in mind that malignancy occurs in the male breast and after thirty-five years of age we all enter the cancer age. One should not be satisfied with a diagnosis from physical findings which is not confirmed by the histological examination after any operation, short of the radical, has been done.

Traumatic affections of the lungs primarily interest the surgeon and call upon him in the first instance for examination, while with diseases, the case is usually referred, and the findings have at least largely been made by the physician, roentgenologist and pathologist.

Hæmorrhages following injury to the thoracic wall or lung denote injury of the lung surely only if pneumothorax or bloody expectoration supervene with or without cellular emphysema. In the event of hæmo- and pneumothorax the pulse and respiration must be closely watched with reference to prompt operative interference. Inflation of the mediastrium from a severed bronchus is usually rapidly fatal. Should the evidence of injury be too slight for recognition pneumonia coming on usually within four days will direct attention to a traumatic sequence of signs and symptoms. Pneumothorax increasing after the external wound of the thorax has been hermetically closed indicates injury to the lung. Surprising tolerance has been noted in military service to injuries by small calibre high velocity projectiles evidenced by a few bloody expectorations as the whole story of the incident. Not so with larger missiles whether passing through or remaining as foreign bodies. Moderate emphysema may arise through an external wound especially in the axilla accompanied or caused by raising and lowering the arm without referring to injury of the lung necessarily. In examining it should be remembered that rest for the patient is of the greatest importance in preventing fresh hæmorrhage. Further, one should not be satisfied with the obvious, but in injuries on the right side look for secondary injury to diaphragm and liver and on the left to diaphragm and spleen respectively. Similarly wounds starting in the abdomen may enter the pleural cavity giving hæmothorax, hilethorax or diaphragmatic hernia, the last especially on the left side. Finally the hæmothorax may be caused largely by complicating injury to the heart and large vessels. The important signs of injury to the heart are the pallor cyanosis, dyspnœa, weak rapid pulse, feeble distant heart sounds in the absence of change in the lungs by percussion and auscultation. Hæmopericardium, leading to compression of the heart only in case of slow oozing into the pericardium for days will approach the size of pericardial increase in dullness

of a chronic enlargement. Continuous observation in all but the rapidly fatal cases, shows alternate improvement and relapse according to the occurrence of fresh bleeding. In cases of heart injury involving the pleura, the patient is pale rather than cyanotic, i.e., suggesting anemia. The area of cardiac dullness is not materially affected by virtue of the escape of blood into the injured pleural cavity. The pulse is variable by spells, according to improvement and relapses as in purely cardiac injuries. Auscultation gives indeterminate murmurs and feeble sounds. Should air enter the pericardium a splashing sound is noticed. Cases however are rarely typical.

Inflammatory diseases of the lung of surgical interest are the sequelæ for the most part of diseases treated previously by the physician from whom the history is obtainable and observed by the roentgenologist and pathologist in their respective phases. With the history of pneumonia, idiopathic, inhalation, or embolic we must discriminate among empyema, abscess, gangrene and subphrenic abscess. The cardinal signs of empyema are dullness frequently at the base but also anywhere in the pleural cavity; weak respiratory sounds, loss of vocal and tactile fremitus, exploratory puncture, fever, dyspnœa, and emaciation. Abscess has many of these characteristics but is less likely to be at the base, is more likely surrounded by normal lung sounds and presents sooner or later sputum settling into three layers—mucus, clear fluid, and pus. Gangrene is characterized by sputum having a foetid odor and shreds of lung tissue. If elastic fibres are not found by the microscopist the case is more likely one of foetid bronchitis. Neoplasm at first mistaken for tuberculosis in time may declare itself as (a) dermoid, by contributing hair or other unusual tissue to the sputum, (b) hydatid, by rupture into a bronchus and examination of the sputum or if the patient lives by the occurrence of urticaria of the puncture wound, (c) malignant growths may give sputum prune-juice in appearance or cellular elements for recognition by the microscopist.

Bronchiectasis though simulating abscess or tuberculous cavities of the lung is largely determined by the history and laboratory findings. Actinomycosis when recognized is also not of special diagnostic interest to the surgeon and simulates pulmonary tuberculosis.

Physical examination of the mediastinum is unsatisfactory, and unaided by the history and skiagrams usually inconclusive. Hypertrophy of the thymus particularly, but also hyperplasia of lymph glands, are more common in the young;

aneurism with its thrill, pulsating tumor, inequality of radial pulses, auscultatory souffle and history of syphilis occurs in adults. Neoplasms are not readily diagnosed with precision, substernal goitre if continuous with a suprasternal mass and movable offers no great obstacle, but one wholly within the thorax should be suspected in the absence of suprasternal thyroid and be differentiated from aneurism by the usual signs, and resort to x-ray examination.

Arriving at the abdomen we are confronted with a cavity having flexible soft tissue on three sides for the most part, and containing hollow and solid viscera of various and complex kinds. Partly in and partly outside the cavity are the urinary organs. All of these are vital to the host while the generative system in so far as it is not combined with the urinary is essential only to reproduction. On account of their inaccessibility to direct examination the diagnosis of possible disturbances of structure and function is largely arrived at by means of the history combined with laboratory examinations of secretions and excretions, x-ray examination by negatives and fluroscopy, and special instruments as stomach tube, sigmoidoscope and cystoscope. Further, many diseases in their incipency are not to be diagnosticated by physical examination alone and later the secondary phenomena are common to many, but at this stage unaided physical examination is unable to determine the organ primarily at fault. Considering the advances made by abdominal surgery the subject in its entirety could scarcely be indexed within the allotted time. The attempt will be made to review what physical examination per se can contribute toward the diagnosis of surgical diseases of the region in question.

In general the possibility of congenital transposition, deformity, fusion and both congenital and acquired displacement of organs must throughout be borne in mind.

External wounds of the abdominal wall have special significance over similar wounds elsewhere only in case the abdominal cavity has at the same time been invaded. In this event we have the same conditions requiring recognition as those associated with injury without an external wound, and the open wound is of value only in helping to localize the area injured. Probing unless the patient is prepared for immediate operation should not be done.

In abdominal injuries involving the viscera we have essentially the same secondary phenomena to deal with that confronts us in a physical examination of demonstrable diseased states.

Intra abdominal hæmorrhage is suspected by pallor, rapid pulse, moderate tension of abdominal muscles, dullness and tenderness beginning rather promptly after receipt of the inquiry in the region primarily affected. Vomiting may or not be present. Peritonitis is indicated by pain usually sudden in the onset and persistent but varying in intensity, moderate elevation of temperature, rapid pulse, rapid shallow breathing largely thoracic; the abdomen early is not distended; tenderness associated with muscular rigidity, retention of fæces and gas, absence of visible peristalsis; later, pinched facies and dry tongue. Later abdominal distention is marked.

Obstruction begins with abdominal pain and vomiting; the pulse is full and slow when the patient is not actually concerned with vomiting; elevation of temperature is lacking; breathing nearly normal in rate and fullness; the abdomen is only slightly or not at all distended; tenderness to percussion or palpation during periods of quiet is absent on palpation; retention of fæces and gas is present at intervals, lasting a short time, pain returns and in thin subjects peristalsis is seen accompanying it. The picture changes materially during the progression of the process, i. e., pulse becomes rapid and small; temperature may rise; abdominal distention persists in the interval between pains which in turn become constant.

It should be realized that obstruction may be acute and complete or partial and very slowly proressive. Quite naturally the signs will vary.

In examining the abdomen with reference to tumors within, the aorta must be borne in mind and also it must be remembered in a case with unyielding walls, that it may be impossible to discriminate between heaving and expansile sensations so that aneurism may simulate a neoplasm. The phantom tumor based on contraction of the upper rectus of one side will be cleared up by examining the other rectus or by having the patient sit up without using the arms. In thin subjects the pancreas may create doubt. Its relatively fixed position and shape are helpful. Fæcal masses are eliminated by their position with reference to the normal course of the gut, purging and x-ray examination. A cylindrical tumor near the spine suggests intussusception. Tumors representing firmly excapsulated fluid under pressure and in case of pus, probably sterile, may resemble neoplasm. These are commonly found in the pelvis or neighborhood of the appendix.

An aid in examination of a movable tumor—false or genuine—is Pagenstecher's procedure of carrying the tumor through whatever arc of a

circle it is capable of being moved and from this arc working out the center which of course will be the fixed point and thereby usually indicate its site of origin. Tumors have the faculty of increasing greatly the limits of movability of the organ of origin. This and the ever present possibility of congenitally displaced viscera complicates a given situation. In the case of a very movable mass which does not indicate by its excursion the attachment of its pedicle, one thinks of the small gut, the mesentery or omentum when in the middle of the abdomen.

An enormous hard mass occupying most of the abdomen renders determination very difficult. Next to the leucæmic spleen we think of fibromyoma, pregnancy, or hydatidiform mole of the uterus; fibro-myxo-lipoma of the fatty capsule of the kidney and in children the mixed kidney neoplasm.

Cystic masses under great pressure and resting on a firm base may simulate a solid neoplasm. In examining, special attention should be given to determining any variation in fluctuation and whether the convexity of the border is best defined above as in ovarian cyst or below as in hydronephrosis. The more uniform the density the more difficult of identification. Inflation of the intestine may help. Resort to cystoscopy in hydronephrosis should aid and encapsulated tuberculous peritonitis must be borne in mind in difficult examinations as being less movable and sharply defined.

Free fluid in connection with tumors, complicated growths, and the history of rapid growth indicate malignancy. Multiplicity alone, however, may be equivocal between malignancy and tuberculous. Secondary infiltration of the umbilicus points to malignancy.

Tumors of the abdominal parietes occasionally simulate intraabdominal growth in lean subjects. If in a state of contraction of the abdominal muscle there is no particular change, the growth is external to the muscle; if on the other hand it is held immovable the mass is in, or very intimately attached to, the muscle; while if the growth seems to disappear it is beneath the muscle at least and probably intraabdominal. Depending upon the location the possibilities vary, and are too numerous to consider here. Here, if time permitted would be the place to consider herniæ.

Diagnosis of diseases, even surgical, of the alimentary tract and adnexa is so dependent for accuracy upon a carefully taken history, laboratory findings of normal and abnormal secretions, and x-ray investigations that the physical examination has been largely restricted in importance.

The conditions recognizable on physical examination are the complicating states of varying degrees of peritonitis, obstruction, hæmorrhage, and tumor already considered. To be sure in gastric or duodenal ulcer we may get localized areas of tenderness; in gall-bladder disease the same sign plus occasionally jaundice and rigidity of the right rectus. This last is an aid in discriminating between biliary and renal colic. In the latter, the lumbar rigidity is present. Forceful percussion is often positive for these two lesions respectively. In a question involving spleen and left kidney it should be remembered that the spleen can always be felt better in front and the kidney behind. Tenderness at or about the site of the appendix with more or less muscular reaction are in uncomplicated appendicitis about all that physical examination reveals, and these signs must accompany a history of symptoms, and if the signs are negative a positive diagnosis is not contraindicated for we may have a post-cæcal retroperitoneal situation of the appendix.

Physical examination of the abdomen in the female should include the bimanual not only for the purpose of detecting gynecological lesions but also for the purpose of elimination of doubt in regard to strictly abdominal problems. Further, in order to do full duty by the patient in treatment, additional local conditions can often be cared for. I use this connection to insist that in the female the rule of securing a catheter specimen of urine for analysis be invariably followed.

The external genitalia in both sexes should be examined as a part of a thorough physical examination.

Rectal examination in children and virgins serves the double purpose of determining conditions within the abdomen and the rectum respectively, while in adults of both sexes much information of local and general value is secured. In the elderly male, it has special significance for the prostate.

In the urinary tract, physical examination again depends very largely upon the laboratory, the x-ray and urological technique.

Diseases of the spinal column of congenital origin are chiefly defect-abnormalities permitting hernia of the coverings of the cord and for their significance like acquired conditions as fractures, dislocations, or inflammatory lesions ultimately rest on the neurological significance of injury to the cord for their importance. In the main, the neurologist and orthopœdist are concerned here. The general surgeon, however, should examine the parts as a matter of routine and note obvious derivations from normal in

posture, limitations of motion, areas of tenderness, and alignment of spinous processes both in antero-posterior and lateral planes.

In dealing with the extremities the evidences on examination of injuries and diseases are essentially the same in principal but differ materially according to the anatomical details and resultant difference in function of the upper and lower respectively, i.e., the different items of posture, deformity, limitation or increase of motion, presence of crepitus, etc. In general it may be said that the x-ray has so enlarged and rendered more exact our knowledge based on physical examination, that whenever possible this means should be used to check up the findings. Besides, it shows painlessly information which is both obtainable painfully and unobtainable otherwise. Negatives have a value from the medico-legal aspect which fluroscopy sadly lacks.

In parts so important for motion evidence of disease or injury in joint, bone, bursa, muscle, and nerve is largely determined by variation from normal in respect to flexion, extension, abduction, adduction, rotation. Besides the results of trauma and inflammation, neoplasm benign and malignant, primary and secondary, must be kept in mind.

The lower extremity by virtue of its increased distance from the heart is more subject to stasis of venous circulation leading to varicosities and to the effects of arterio-sclerosis as in thrombo-arteritis obliterans of Berger. Similarly the weight bearing functions accounts for static deformities.

However rambling and fragmentary in details the journey has been from head to foot, the idea which the writer would like to convey, is that of an excursion conducted with aid of a camera recording in form and in color, with pitiless accuracy for permanent record, the items of which the objective picture of the patient is formed.

Discussion

Dr. C. F. Wahrer, Fort Madison—Given an office full of patients, a wise man, an experienced man, a busy man and a very learned man for a doctor, and the office girl pressing him to see the patients who are waiting, and there may be some excuse, but no justification for hurrying a lot of patients through, simply because they are in the office. We must certainly use all the means at our command in order to make a diagnosis. A diagnosis cannot be made in the old-fashioned way, simply by looking at the patient. As an old doctor once told me, "I have a very sharp eye, and when I look at them I have pretty nearly got what is the matter with them." You must remember that long ago Aristotle taught us that experience is fallacious and judgment difficult, and a doctor needs all the experience and learning he

may have in addition to good judgment, and even then he may fail. He must have more—he must make a physical examination with all the ability at his command, he must take the blood-pressure, examine the urine, use auscultation and percussion, and careful palpation, ascertain the clinical history, and other things which you know ought to be done, and not form a snap judgment and make a tentative diagnosis which he knows will not benefit the patient, but will give him another whack at him. Now, the more whacks the patient gets, so much the worse for the doctor's reputation and so much the worse for the patient. If you will go back with me a few years and review the published articles by the masterly man who just laid down his life-work, Sir William Osler, you will find that in addressing his students he tells them that the crowning bad habit of the average doctor is laziness. In other words, he lacks initiative to work and to try to find out and arrive at a diagnosis that is just to the patient and to himself. There are many of us who are overworked and Dr. Osler's accusation may seem to be out of place, but the temptation to get rid of so many patients a day is great, but never justified. A case in point: A patient came to me just the other day, an old gentleman of seventy-seven, who had been treated by a physician and also by two chiropractors—I do not know what they are, but that is what he said,—and he got worse continually. When he came to me I noticed he was short of breath (due to my sharp eye sir), and I asked among other things if the Doctor had examined his heart. No, he had not examined his heart. Had his urine been examined? "No." Did he examine his chest? "No." Upon examining the patient I found a senile heart—it was no stronger than the integral structures of his muscular system. This, combined with a disposition to gluttony which led him to eat many things that did not digest, but decayed and made gas which pushed up the diaphragm and caused pressure upon the heart, was the cause of the trouble. All that was necessary was to tell him what was the matter and give him dietary directions, and this with arterial sedatives will keep him comfortable for the rest of his life. To take the substance of your patient, without doing him good, is unjust. A young lady sixty years of age came to me the other day and mentioned that she was suffering from this and that. She had consulted a doctor who referred her to me after telling her that she ought to have her blood-pressure taken. Good advice! She asked her brother, a druggist, about it and he gave his wise opinion that she did not need to have her blood-pressure taken, and she wanted to know if I thought so. "I do not know," I replied, "I will take it and then tell you whether you need it or not." I took it—190° m.m. That was her trouble, and a few other things. In closing I will say, read the two volumes of Richard Cabot on diagnosis and you will see the need of what I tried to tell and the advice of the essayist. Good habits in diagnosis once acquired will make for success and make all future efforts in this direction easier and easier.

SYMPOSIUM ON SURGICAL DIAGNOSIS

PART III. LABORATORY PROCEDURES*

FREDERICK H. LAMB, M.D., Davenport

Fully nine-tenths of all surgical operations are undertaken either for the relief of existing disease or for the prevention of greater disability from disease or injury than already exists. Relatively few operations are performed solely for diagnostic purposes. It is logical, therefore, to regard operative surgery almost wholly in the light of therapeutics.

An equally large proportion of laboratory procedures are intended to aid in making or to confirm diagnoses. Certain tests are helpful in studying the progress of treatment, particularly in the medical clinic rather than in the surgical, yet there are no laboratory measures in themselves, therapeutic. Hence it might seem that operative surgery and laboratory work, differing so widely in their direct aims, had no common interests.

Yet, there is in reality a strong bond of union between them, both traditional and actual, without which the clinical and bacteriological laboratory would lose much of its greatest value in medicine, and the blessings of good surgery be lost to mankind.

Subtract from modern surgery all that the science of bacteriology alone has yielded and you have left the surgery of the mediæval ages. You are confronted with the ravages of hospital gangrene, of endless suppuration, of erysipelas, pyæmia, septicæmia, and the dreaded visitor of the lying-in room, puerperal sepsis. Add to the great World War a like proportion of horror which obtained in the Civil War, or even in the Spanish-American War, due solely to a lack of sanitation, hygiene, and aseptic surgery and the present catastrophe would be comparatively negligible.

Is it not fitting to pause a moment to render homage to the memories of two great heroes in the war against disease, whose names are not to be found in children's school books, nor but rarely in the public press, yet whose victories in peace have been of infinitely greater importance to mankind than those of any political war: the one Lord Lister, a great surgeon, and the other Louis Pasteur, a great bacteriologist? Those two names are eminently worthy of the highest places in the world's hall of fame for "Great is the victory without blood shed."

Much more might be said to emphasize a tradi-

tional relationship between the laboratory and the operating room. But, just as we are a nation, whose most intense concern is for the present with relative disregard for both past and future, so are we as individuals in the profession of medicine most deeply concerned with the present active correlation of the subjects at hand. Today the clinical laboratorian and the surgeon meet on the common ground of diagnosis. Tradition gives way to advanced research, personal experience and a grasp of the literature relative to the case in point. Dogmatism and empiricism have no place in the conference, nor in the armamentarium of either individual.

Since the subject of my paper is one on which volumes have been written, I cannot hope to cover, in the time allotted, anything like a comprehensive review of the matter. I have chosen to limit my remarks to the most practical phases of the subject, and to present only the more important aspects of every day work as I understand them. I shall make no reference in the discussion to procedures which are carried out in laboratories devoted to research such as the Pasteur, Lister or Rockefeller Institutes. I shall confine myself exclusively to what is commonly called the clinical laboratory that is coming to be run more and more as a utility, if you please; the place to which a physician may send a specimen of sputum, blood, stomach contents, or fragments of a tumor, or may refer a patient to have a series of such examinations made. (It may be located in a hospital so as to serve both hospital and ambulatory patients, or in a down-town business block open to all patients, or it may be the private laboratory of a physician or group of physicians. The location and service are of secondary importance to the personnel of the laboratory.)

And, before venturing into a discussion of technical procedures, permit me, at the risk of seeming digression, to state a few facts with reference to all laboratory work, which are fundamentals of transcendent importance, and which cannot be neglected in any formal discussion of the subject.

There was a time not many years ago, when strained relations frequently existed between the practitioner, surgeon, or internist, and the laboratory expert. Faulty conceptions prevailed on each side, but happily for both and the patient included, the day of these wranglings is passing. For the vestige that remains in some quarters and because I had the chance to observe the attitude of many co-workers in army laboratories, as well as reflect on my own, I shall call attention to sev-

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eral common faults of which technical workers are more or less guilty, though often quite unconsciously so.

In the first place, in reporting the results of examinations, there is at times a failure to acknowledge inherent limitations of a method which has been used. Just as the clinician must admit sometimes his inability to interpret physical signs so must the laboratorian possess a frank willingness to say that he can not correlate his various findings. In the long run it will inspire more confidence to admit the possibility of error, and request a second or third specimen for subsequent analysis, than to deny any possibility of mistake, or admit rightful limitations.

In the second place, there is occasionally a failure on the part of the laboratory to realize the gravity of the duty imposed upon it. The family doctor with the medical or surgical consultant may have exhausted their means of diagnosis. The laboratory expert is called in. On his findings may depend the loss of a breast or uterus in a young woman for supposed carcinoma, the sacrifice of a limb for what seems to be sarcoma, or the relinquishing of life's plans and hopes because of supposed tuberculosis of the lung or kidney, the diagnosis being based on some doubtful or incomplete technical data.

Again, the laboratory worker is often so remote from the patient that he fails to feel that personal responsibility of which the family physician is all too conscious. So, scarcely realizing the importance of a decision, he may make it on insufficient grounds. Were the full import of this decision felt in doubtful cases, he might admit his inability to reach a positive conclusion, or qualify the same by stating inherent difficulties peculiar to the case.

For these reasons, gentlemen, I firmly believe it is not a good practice to withhold the important clinical features from the laboratory. Some will disagree with me on the ground that laboratory findings should be arrived at independently of any clinical knowledge. I admit the desirability of this in certain instances. But, if all clinicians were fully aware of all limitations in instruments of precision and laboratory technique, there would be less desirability of a knowledge of clinical data. For example, many of our most common laboratory reports are based on what is admitted by every observer to be incomplete data. The finding of an acid fast, slightly curved, beaded bacillus in sputum, is nearly always reported as the tubercle bacillus. A gram negative intracellular diplococcus occurring in purulent exudate from the urethra is, ninety-nine times

out of one hundred, the gonococcus; yet, there is a hundredth time, and there are ways of following such questions to a finality. However, it is not practical to submit all specimens to the most searching analysis, nor is it desirable or necessary, and the laboratorian should be given a chance to state his position where exigency and expediency demand it.

The tendency for some laboratory workers to step beyond their province and make unwarrantable and unasked for diagnosis, is the third fundamental contributing to unsatisfactory relations. Strictly speaking, the laboratory's function ends with the announcement of its findings. Most diseases have yet to be recognized by a complexus of symptoms and signs rather than by any one pathognomonic finding, and it is only when the relative value of these symptoms and signs are correlated that the best diagnoses are made. The great desideratum is for the laboratorian and clinician to work together, each approaching the same end, namely the patient's welfare, but from different angles and with different methods, and each sharing a just proportion of the responsibility.

However far afield the foregoing thoughts may have taken me from a strict interpretation of my subject, I feel that the bulk and sinew of the profession, the general practitioner, is more deeply concerned with certain general aspects of laboratory work than with the specific details. If we are to profit by the successful examples of co-operation in other fields of endeavor, we must learn to mould and assemble as well as to form the elements of diagnosis.

With the foregoing in mind, I shall outline briefly some of the more common laboratory procedures as they relate to the diagnosis of surgical conditions, and to the differential diagnosis of certain non-surgical conditions which may simulate the surgical.

URINE

There are two important practical purposes of a thorough urine examination in surgical cases. First, it is important for the surgeon to know beyond all reasonable doubt that the urinary tract of a patient about to undergo surgical operation is functioning normally; or, if there be pathological elements in the urine it is highly important to know something of the extent of impaired function. Selection of the anæsthetic, the time of operation and the nature of after treatment may be greatly influenced by a knowledge of such conditions. The detection of albumin and casts, sugar or acetone in moderate quantities need not

interdict all major operations. There are plenty of surgical conditions in which operation is imperative regardless of urinary findings, and the surgeon may have no choice in the matter. On the other hand, there are factors in many operations which may be modified with the end in view of giving the patient greater chances of safety. A moderate glycosuria with the attendant hyperglycemia may be reduced to normal limits within a few days, and, if the operation be of such nature as to permit postponement the chances of favorable outcome are increased. In some instances the causes of an albuminuria, an acetonuria, or an indicanuria, may be relieved by simple measures, and whenever practical this should be done.

It is possible by means of laboratory examinations of the urine and blood to measure the surgical risk in some instances. A striking example of this is seen in radical operations on the urinary tract itself. As every one knows many patients requiring prostatectomy develop nephritis, and pyelitis early in the course of prostatic inflammation or hypertrophy. It has long been known that this operation is peculiarly apt to be followed by suppression of urine and especially so if the kidney impairment is already great. Here the phenolsulphonphthalein test of kidney function becomes especially valuable. If the phthalein output be as low as 20 per cent in two hours following intramuscular injection, and there is found to be a proportional increase in the non-protein nitrogen of the blood, the chances for a successful outcome are greatly diminished. The logical procedure, of course, is to take as much burden from the kidney as possible, by dietary measures, and suprapubic drainage, and delay the radical operation until such a time as the kidney function shall have increased to a point within limits of safety.

The second purpose of a urine examination is to reveal in a direct way certain elements pointing to the diagnosis of surgical disease of the urinary tract. The finding of pus, or calculi in the urine needs no comment except to be sure of the origin. Bacteriological examination is important, of course, in indicating the nature of an infection, and in the control of treatment of certain forms of pyelitis. A word of caution regarding the tubercle bacillus is in order. The smegma bacillus very closely resembles the tubercle bacillus in its morphology and staining characteristics. If the specimen to be examined be catheterized, the chances for grave error will be greatly reduced. It is well to remember also that continued centrifuging at high speed is necessary

to bring the tubercle bacillus to the bottom of a centrifuge tube, and that it may require a long search or animal inoculation to demonstrate its presence in the sediment.

BLOOD

Just as in the case of the urine analysis, so may the blood examination reveal data of both a negative and positive value. The red count and hæmoglobin estimation indicate directly the absence of or the degree of anemia. Occasionally the differential diagnosis of pernicious anemia and chlorosis will tax the skill of the most expert hæmologist. The correlation of all findings both clinical and laboratory is imperative in borderline or doubtful cases. The leukocyte count is perhaps one of the most useful of all technical procedures in surgical diagnosis, yet this very valuable aid is not unfailing by any means. To say the least, it is capricious at times, and who among us has not had a hard fall by placing too great reliance on the presence or absence of a leukocytosis. We should remember that the leukocytic reaction of the body is very imperfectly understood and we should never for a moment forget that we cannot measure the quantity or quality of an inflammation by counting the leukocytes. We are merely measuring one of the body's general reactions to infection or intoxication. It happens that in typhoid and tuberculosis, uncomplicated by pyogenic infection, we do not get an increased white count. In typhoid particularly, we are apt to get a leukopenia which is proportional to the severity of the disease. Hence a white count will often give a very valuable clue as to the nature of a continuous fever, but it must be taken into consideration along with other available data. It is pretty generally conceded that in certain overwhelming infections, a normal or but slightly increased white count may exist—the practical difficulty in such instances, however, is to know just when one is dealing with an overwhelming infection. A persistently low leukocyte count in a severe pyogenic infection may be said to have an unfavorable prognostic significance.

The differential leucocyte count is of great value occasionally. I recall one instance in which a nephrectomy was proposed in a case of splenomyelogenous leukæmia, and in another instance a cholecystectomy was suggested to a patient having an acute lymphatic leukæmia. I should add that a thorough physical examination in either of the cases would probably have prevented the mistaken diagnosis, although the blood smear easily rendered a correct diagnosis possible.

It may require a critical examination of the

white cells to fully decide the nature and significance of certain pathological leucocytes; such for instance is necessary in the differential diagnosis of aleukæmic leukæmia. On the relative increase or decrease of normal white cells, there is perhaps but one important observation. A high percentage of polynuclear neutrophiles either in a moderate or high leukocytosis points more strongly to pyogenic infection than either one alone. Greater than 5 or 6 per cent eosinophiles with a leukocytosis would bring up the question of nematode, cestode, or parasitic infection in the absence of bronchial asthma, although it should be remembered that an eosinophilia as high as 25 per cent has been reported in appendicitis.

Investigation of the blood by culture is a procedure which is of very great value in certain cases. Positive findings which have been properly controlled, indicate the nature of a generalized infection, precisely. Negative findings are of little value except perhaps in the differential diagnosis of typhoid. In from 80 per cent to 90 per cent of typhoid infections, the blood culture is positive early in the disease. This fact finds its most useful application in differentiating typhoid from the typhoid form of miliary tuberculosis. About 20 per cent of blood cultures are positive early in pneumonia and a somewhat greater proportion in malignant endocarditis, providing that the cultures be made at frequent intervals.

The Wassermann complement fixation test in spite of all criticism, stands today in a position of relative importance second to no other laboratory test. Its relation to the differential diagnosis of surgical conditions is seen particularly in tabetic crises, blastomata, indolent ulceration, adenopathies, osteomyelitis, the arthritides, muscular palsies, and the pathology of all viscera. One has only to practice surgery long enough to meet some day with the chagrin of having performed an unnecessary operation in the presence of syphilis unawares. I believe that most surgeons at the present time are falling behind their colleagues in internal medicine in the recognition of lues. A more active vigilance should be maintained for manifestations of this disease, and the Wassermann test should become much more a matter of routine in surgical diagnosis, especially in private practice, than it is today.

The newer methods of blood chemistry which have become so useful in the diagnosis and prognosis of medical conditions, have had thus far but limited application in surgery. The most important contributions from this source are the studies which throw light on the general condition of a

patient and the capacity of certain organs to withstand the increased burden incident to operation. The surgeon must know not only what he is going to operate for, but must carefully weigh the risk of operation from all standpoints. I believe that he may expect considerable help in the future in these matters of judgment, from the hands of the metabolic chemist.

GASTRIC ANALYSES

The importance of examination of the stomach or duodenal contents in surgical conditions of upper alimentary tract is limited. In most instances the total acidity, and free hydrochloric acid determination of stomach contents are of secondary importance. Unless combined with other data they are of no useful significance. The presence of large numbers Oppler-Boas bacilli and lactic acid, as every one knows are valuable signs when combined with such other findings as the existence of a mass in the hyperchondrium, etc. Taken alone, gastric analyses yield but little positive information. When used to round out a clinical picture, or to supplement roentgenologic findings, chemical analyses are desirable and may be of the greatest value in certain individual cases.

STOOL

The finding of blood on a meat free diet or pus in the stool is always pathological. The most frequent cause of either is ulceration or erosion somewhere in the alimentary tract, the treatment of which may be either surgical or medical. The finding of tubercle bacilli in an admixture of pus, blood and mucus points to tuberculous ulceration, although it is quite possible for tubercle bacilli to be swallowed with sputum and be found in the feces. The finding of amoebæ with symptoms of hepatic abscess will give a strong clue as to the nature of the abscess. A flattened tapeline stool is evidence of stricture in the lumen of the rectum or anus. But just as in the case of gastric analysis, those of the feces are rarely of great diagnostic importance except when combined with other clinical or technical findings.

SPUTUM

Practically the only surgical condition of the respiratory tract in which an examination of the sputum is of value is in pulmonary abscess formation. Rupture of an abscess into a bronchus will usually result in the production of large quantities of purulent, foul smelling sputum. The bacteriological nature, of course, may be determined by smears and cultures. The occurrence of fat droplets in the sputum points strongly to fatty embolism of the lung and should be watched for

following the fracture of long bones, or trauma to adipose tissue.

BACTERIOLOGICAL EXAMINATIONS

Determination of the bacterial flora of inflammatory processes is imperative at times. The finding of tetanus bacilli in a wound, of meningococci in spinal fluid, of diphtheria bacilli in a post operative or sloughing wound, or the gonococcus in a conjunctival exudate need no argument to enhance their importance. Reports of military surgery are replete with instances of the necessity for deciding quickly whether a wound is infected with the gas producing *B. Welchii*. It has also been found very practical to control the closure of open wounds and wide incisions by bacterial counts. This practice deserves much more attention that is accorded to it in surgery of civil life. Just as specific forms of treatment appear for various infections, so will the importance of bacteriological examination become more and more indispensable. Foci of infection have to be ferreted out sometimes by the most painstaking bacteriologic investigations, which are too numerous and too technical to discuss at this time.

TISSUE EXAMINATIONS

An adequate or formal discussion of the importance of tissue examinations and their relation to surgical diagnosis would take time far beyond the limits of this paper. There is no laboratory procedure which requires so much skill or experience as the histologic study of tissue. If comparison be possible, cellular pathology is perhaps the most difficult field in medicine. It is a field which is neglected by many laboratory workers and is shunned by most clinicians. Although it is difficult to interest the average practitioner in the demonstration of a microscopic section, yet the ability to visualize pathologic process, and to interpret cellular reactions to injury and disease is an accomplishment worth striving for.

The opportunity here for cooperation between the surgeon and laboratorian is an unparalleled source of profit to both. In fact many consultations begun at the bedside could satisfactorily be carried to the laboratory bench, there to be weighed in a balance which will register the weights of both clinical and technical evidence.

SUMMARY

In conclusion, I wish to emphasize again the element of personal equation in laboratory work. Rightful limitations must be freely admitted, and responsibilities carefully weighed. Laboratory studies have brought about great changes in our conception of disease, and in the manner of its de-

tection, yet laboratory diagnosis possesses no machine like accuracy. The laboratory should be looked upon as a source of valuable data relating to diagnosis in just the same way as a cardinal symptom of disease contributes to a symptom complex or syndrome. The thought I leave with you is, that he who has the most evidence upon which to base his decisions will, in the end, make the better diagnosis.

Discussion

Dr. J. F. Herrick, Ottumwa—The value of laboratory examinations in connection with surgery is not exactly new, but it is becoming more and more appreciated. I think that such a paper as has been presented is valuable for different reasons.

One thing that struck me especially was the conservative estimate that the essayist has put on the laboratory—I would say if anything rather too conservative because there isn't any doubt but that in many cases the work is decided for or against as the laboratory decides. For instance, a tumor is about to be removed, a corresponding tumor, or nodule is found in another part of the body, it is removed and microscopic section shows, as it did in a case yesterday, a melanotic sarcoma already diffused through the body as evidenced by this distinct nodule. The operation was abandoned, thus saving the patient a serious operation, whereas if not for the laboratory the operation would have been undertaken and possibly the patient would have lost his life, certainly would not have been benefitted, but rather injured by the proceeding. Therefore I have great confidence in the benefits obtained by the laboratory. As the essayist has said, the laboratory must be in the hands of a careful, conservative man, some one who admits his weakness, who admits his uncertainties, but who conscientiously assists the surgeon in working out his case. I am certain that if anything the essayist underestimates the real value of the laboratory in connection with surgery, and the great fault that can be charged up against the profession is that they do not use the laboratory sufficiently.

Dr. Henry Albert, Iowa City—I should like to emphasize more especially the desirability of very close cooperation between the pathologist and the surgeon. There are certain times, as intimated by the essayist, when the pathologist should be present at the operation so that he may be prepared to make a section and microscopic examination—the results of which may aid the surgeon in arriving at a conclusion as to the type of operation to be performed. Even if such is not absolutely necessary, it is very desirable, that there should be opportunity for conference between the pathologist and surgeon. In that way the surgeon will often be able to determine, in special instances, just what kind of material the laboratory man will want for examination and in some instances how best to secure the material. It will also enable the pathologist to make a more proper interpretation of the microscopic findings. There are instances in

which difficult cases will be aided when there is opportunity for discussion from both the laboratory and the clinical points of view so as to clear up many obscure questions. In order that this kind of cooperation may be best brought about, it is very desirable that we should have more laboratories. The laboratories should be brought close to the patient. In this connection it will be a matter of interest to know that not more than fifteen years ago there was, in this state, aside from the pathological laboratories at two of the medical schools, not a single laboratory in charge of a full time pathologist. At the present time there are a dozen such laboratories. There is great need for still more.

Dr. Daniel J. Glomset, Des Moines—The views which Dr. Lamb has so very admirably put before you this afternoon represent the views of any honest laboratory worker who has had as much experience as Dr. Lamb has had. Looking back over my own experience I would say that there are certain points that are fundamentally important in connection with this subject. The first point is to have a surgeon or a medical man who is honest and wants an honest opinion and is at the same time capable. The second point is to have an honest and competent laboratory man who is just as zealous as the other man in getting at the truth. Then the cards should be put on the table and left there. We must cease this mysterious way of handing to laboratory workers a specimen sealed up with an air of great mysticism about it and then have that laboratory man roll it over, taste and smell it and render an opinion on it. If you have a laboratory man that you do not trust, get somebody else that you can, and having obtained one that you can trust give him all the information that you have. He needs it and you need it and he will give you all that he can. I shall never forget when, during my early experience, I asked Dr. Hektoen one day what he did to make a diagnosis of a piece of tissue. He replied: "You need the history of the case complete, the symptoms, the age and sex of the patient." I said to myself,—If we have all that, what is the use of making tissue examination? But you need all those things and need good slides, and even then you cannot at times tell what you are dealing with. When there is full cooperation between the clinical and laboratory workers, we shall have results infinitely better than those we obtain today. One more phase that Dr. Lamb did not touch upon because he had so many things to cover, is the value of laboratory reports to the surgeon in checking up his results. I do not think that any honest surgeon can afford to remove a piece of tissue and throw it in the waste basket without knowing what he has. That has been done altogether too much in our country up to the present time. I believe that every tissue that is removed by operation should be examined by a competent pathologist in order that the surgeon may learn whether he was right or wrong in his diagnosis. If we get to that point in this state, then we shall have fewer operations and better ones. Another point

which I wish to bring out is the importance of chemical analysis of the blood and also what the rate of the basal metabolism may be. Dr. Lamb mentioned this. I wish to emphasize the fact that no man should attempt to do a prostatectomy without determining the blood creatinin of the case before operation. The phenolsulphonephthalein test is very good, but, according to Braasch, it is not reliable under 40 per cent. The last point is the value of ascertaining the basal metabolism rate in hyperthyroidism. I just came back from Boston and have recently been in Rochester, and have found that men of largest experience do not attempt to operate on exophthalmic goiters any more without knowing what the basal metabolism rate is.

Dr. Frank M. Fuller, Keokuk—This paper, presented in so able a manner by a medical technician seems to give us the best answer we could make to the discussion that has been published in the Journal of the A. M. A., through correspondence, in regard to whether a laboratory man should be a medical man or a pure technician. I think the trend of this whole symposium has been to show us the influence of the special worker upon the entire field, and every man who has been here has been demonstrating the fact that he is only a cog in the wheel. I could not help but reflect, as I sat here today, upon the character of this symposium, and I want to compliment the chairman of the section on surgery upon the character of this surgical presentation. We men who are in the medical side of the work and who look back twenty years or more ago to the meetings of the Iowa State Medical Society, cannot but feel that the surgical side of the program twenty years ago consisted of the technic of doing some kind of an operation, and we found that the members, instead of sitting quietly as you have sat here today, drifted out because they said they were not particularly interested in this kind of work. It is true, technic is important; but here is the entire work presented as a whole. There is only one suggestion I would make in connection with this symposium, and that is that the chairman of the section should have put into it "the diagnosis from the internist's point of view," because I believe that, instead of the internist and the surgeon being divided as we formerly were, we are today working as one. When we come to a surgical condition it is usually the internist, the purely medical man, who examines the patient, he makes the diagnosis, and it is his responsibility to use all the measures that have been suggested in this symposium. We take the laboratory and the x-ray, we use all the means at our command and make up our minds whether the case is medical or surgical and refer it where the best results can be obtained. I have told the story of an incident which occurred in Keokuk some time ago. Dr. Ruth and a doctor from Chicago were present. Dr. Ruth presented a carefully considered case, and the Chicago surgeon got up and said: "Well, gentlemen, we have heard all the history and heard what Dr. Ruth has found, and

we will now proceed to open the belly and find what is the matter with the woman." That day has gone by. It is true we must, if possible, make the diagnosis before the operation if we are earnest and sincere in our desire to find what the conditions are, and the trend of the surgery of today is not to open and find what is the matter, but to use every means connected with the x-ray and laboratory in order to come to an intelligent idea as to what the condition is in order to judge whether surgical therapeutics is going to give as good results as medical therapeutics would promise us in a purely medical case.

Dr. O. C. Morrison, Carroll—I do not know whether members of the Society are really conscious of the fact that the majority of operations done in Iowa are done in places where the surgeons do not have the benefit of a good pathologist. The diagnosis then, rests purely upon the basis of the clinical findings and much of the work is good. Laboratory work is not done in those places, not because the men who operate do not as a rule believe in the pathologist and would not welcome his aid, but it is because there are not a sufficient number of pathologists to go round. Since establishing a hospital of 100 beds or over, it is the intent to have a good pathologist in every place. I would like to call the attention of the profession of the state to the fact that there is a duty each of us may perform, and that is, that when we recommend a boy to go to the university we call his attention to the great opening in the field of pathology.

SYMPOSIUM ON SURGICAL DIAGNOSIS PART IV. X-RAY EXAMINATION

THOMAS A. BURCHAM, M.D., Des Moines

The subject of x-ray examination as part of a symposium in the surgical section, covers a large field, and it would be impossible to take up in detail all the surgical lesions referred for x-ray examination. It will, therefore, be necessary for the writer to touch only on some of the conditions and speak more fully on others of more importance.

The value of the x-ray in diagnosis is becoming more and more realized, until today it is used as a routine in a certain class of cases. Physicians are devoting their entire time to this branch of medical science. The profession is beginning to realize that an x-ray examination, to be of any aid, must be backed by the opinion of a physician who has had special training along this line.

Probably the most common use of the x-ray today is in the examination of bones, fractured and diseased. I wish to impress upon you the importance of good technic and standard positions in x-ray examination of bones. It is desirable to make plates, whenever possible, in two directions at right angles to each other, and when this

is impossible to make stereoscopic plates. Many fractures are overlooked because the plate is not sufficiently clear to demonstrate the bony structure. Stereoscopic plates are particularly desirable in examining the skull, thorax, pelvis, shoulder and hip joints. It would be useless for me to describe how a fracture is manifested on a developed x-ray plate before a society of this kind. I only wish to impress upon you the importance of careful examination of the plates for unusual fractures, fractures within the joints, and fractures which can not be elicited by physical examination. It is unnecessary today to submit the patient to unnecessary pain or to administer an anesthetic to determine the presence of a fracture, when x-ray machines are so plentiful, both stationary and portable. Whenever possible it is your duty to submit your patient to x-ray examination, if not immediately after injury, as soon as possible before union is so complete that correction can not be undertaken. I realize that, in some cases, this is impossible, such as fractured femur in a patient living in the country. When possible x-ray examination should be made for your own protection. The x-ray has made the study of the bony skeleton an open book, and has given the surgeon evidence to correct injuries by open operation, which might otherwise have caused permanent deformities.

The same knowledge is gained by x-ray examination in diseased conditions of the bones. Many patients are saved amputation by early x-ray examination in conditions which are clinically malignant bone diseases, such as bone cysts, abscesses, or cartilaginous growths.

The extent of an osteomyelitis with its characteristic destruction involving the entire shaft of the bone, can be easily demonstrated, giving the surgeon full knowledge of the extent of the disease before operation.

The characteristic lesion of a syphilitic periostitis revealed by the x-ray, has saved many cases from unnecessary operation. This lesion is characterized by a hyperplasia of bone structure of the cortex, with irregular comb-teeth projections of bone structure under the periosteum and with the medullary portion uninvolved. The atrophic changes in a Charcot joint are characteristic of that disease alone. The joint is large and painless, and the articular surfaces are completely obliterated with an over-production of new bone formation of the same density as the shaft, giving the end of the bone a mushroom appearance. This condition is entirely opposite to a destructive process involving a joint as found in an infective process, as tuberculosis, etc.

The information desired in bone tumors is whether they are benign or malignant. It is not always possible to determine this from an x-ray alone, but the points to consider in the differential diagnosis are: first—part of origin; second—invasion; third—bone production, and fourth—condition of cortex. (American Journal Roentgenology, May, 1918.)

Most of the malignant conditions originating in the shaft of the bone, grow rapidly in all directions and cause a destruction of the bone. The cortex is destroyed early. The bone does not increase in diameter and the involved area does not become oval in shape. In benign growths the cortex is well defined, but may be very thin. This is a rough general rule.

Periosteal sarcoma produces new bone, growing outward from the periosteum into the soft tissue.

Osteo sarcoma also produces new bone and may have as its point of origin, either the cortex or the medullary portion of the bone, causing extensive bone destruction.

These conditions are easily differentiated from the other conditions in which new bone is formed, such as ossifying hematoma and myositis ossificans. The knowledge gained by the x-ray is far greater than that gained by any other method except the actual microscopic examination of the specimen. The examination of the bone for secondary metastatic carcinoma has often prevented unnecessary operation.

X-ray examination of the chest reveals a great deal of information. Hydrothorax and empyema, encapsulated and interlobar, are easily demonstrated, and their exact location can be determined, thus aiding the surgeon in a correct approach. It is impossible to definitely determine whether an accumulation is pus or fluid from the x-ray alone, as it is impossible to determine the specific gravity of two fluids by means of the x-ray. Fluid or pus will only show a fluid level when air, or gas formed as the result of pyogenic organisms, are present in the pleural cavity. The characteristic manifestation of an accumulation within the pleural cavity is a dense homogeneous shadow obliterating the shadow of the diaphragm and extending upward, with no area of less density, and with or without fluid level. Clinical history and blood examination are necessary to determine whether fluid or pus. When the accumulation is large the mediastinal organs are displaced to the opposite side. In chronic empyema, after drainage has ceased, and in chronic destructive conditions of the lung with dense adhesions and thickened pleura, the scar tissue draws the mediastinal organs to the affected side.

This is the point in differential diagnosis.

X-ray is very valuable in determining the sacculated accumulation and the multiple abscess involving the lung structure. These conditions can be definitely localized as to their exact position within the chest, preventing the painful exploratory puncturing of the pleural cavity. These conditions are not mistaken for consolidated areas within the lung structure as the roentgen manifestations are entirely different.

Gross lesions are best studied by means of the fluoroscope with the patient in the upright position. The presence of an aneurism, or tumor and the size and shape of the heart and pericardial effusion are easily demonstrated.

Subphrenic abscess with gas displaces the diaphragm upward and there is a definite fluid level.

The suggestive signs in a subphrenic abscess without gas are the high position of the diaphragm and the lack of excursion in comparison with the opposite side.

Unsuspected foreign bodies in the trachea and bronchi are frequently encountered.

X-ray examination of the genitourinary tract reveals many pathological conditions and is becoming universally used. The presence of calculi in the kidney, ureter or bladder are readily shown.

About one per cent of the calculi originating in the kidney or bladder do not contain sufficient calcium to cast a shadow on the plate. Unless the stone is typical of a formation in the pelvis or calices of the kidney one should refrain from making a definite diagnosis. Calcified lymph glands, phlebolith and enterolith must be ruled out. This is best done by cystoscopic examination in conjunction with the x-ray. The introduction of an opaque substance into the bladder and ureter, or the mere introduction of an opaque catheter into the ureter is sufficient to determine whether a shadow is within the ureter after taking two exposures on the same plate, shifting the tube between exposures. The best substance for use in injecting the genitourinary system, and the one most universally in use, is 25 per cent sodium bromide. By this method much information is gained, such as abnormally placed kidneys and ureters, diverticulum of bladder and other abnormalities. This is a great aid in the diagnosis of hypernephroma. The writer wishes to emphasize the point that all shadows in the region of the genitourinary tract are not calculi, and an effort must be made to determine this point by the cooperation of the roentgenologist and the urologist, with cystoscopic examination and the injection of kidneys, if necessary, before surgical interference.

The roentgen evidence of diseased kidneys, especially tuberculous, is best described by quoting from a collected paper by W. F. Braash and F. A. Olsen, *Radiographic Diagnosis of Renal Tuberculosis*. (Mayo Clinic, 1918, Vol. x, page 269.) They state that the roentgenographic shadows are caused by the deposit of calcium. Differentiated by—

1. Variableness in density; 2. less dense than stone; 3. irregular and indefinite outline. Seventy-five per cent of tuberculous shadows may be recognized.

In conclusion they state "pyelography in tuberculosis the typical findings are: 1. Irregular, inflamed ureter; dilatation of the pelvis; 2. areas of cortical necrosis; 3. stricture of ureter."

Further conclusions are:

1. Value of roentgen ray in renal tuberculosis is not fully appreciated.
2. Routine roentgen examination in every case advisable.
3. Shadows are seen in 20 per cent of patients with renal tuberculosis.
4. Positive evidence may be obtained when all else fails.
5. The shadows resulting are characteristic.
6. Caseated areas in ureter and prostate may be outlined.
7. Pyelography is occasionally valuable in identification of renal infections of doubtful nature and identification of doubtful shadows in renal area.
8. Cystograms may aid.

The introduction of the opaque meal has made it possible to study the entire gastrointestinal tract from the mouth to the anus. The meal consists of barium sulphate suspended in a suitable medium, such as buttermilk, milk and cream equal parts, or malted milk in solution. If two meals are given, the first meal given six hours before examination should be a carbohydrate meal containing barium sulphate. Cream of wheat served as a breakfast food is very satisfactory.

Diverticulum of the esophagus, stricture and cardiospasm are easily detected.

In cardiospasm there is a diffuse, smooth enlargement of the esophagus. In a malignant obstruction the esophagus is irregular in outline, with a small irregular opening.

The position, size and number of diverticuli of esophagus are important from a surgical standpoint.

The use of the contrast meal in examination of the stomach has become universal and the information gained by this method far exceeds that from any other methods. It is possible to observe the stomach while functioning. To enumerate the roentgen manifestations of only one lesion of the

stomach would consume the time limit of this paper. The negative findings of a stomach are as important as the pathological findings. W. J. Mayo says, "So frequently are those symptoms reflex that only one in ten who complain of gastric trouble as the major symptoms actually has disease of stomach." It is important to always bear this in mind. The extrinsic conditions which cause spasm of the stomach or pylorus are appendicitis, gall-bladder disease, duodenal ulcer, spastic colon, neurosis, tabes, and certain chemical intoxicants as lead, morphine, etc. The intrinsic organic lesions are ulcer, scar of healed ulcer, perigastric adhesions, cancer, syphilis and corrosive chemicals. An hourglass condition may be produced by extrinsic or intrinsic conditions. If the condition can not be accounted for as a definite organic lesion within the stomach itself, an effort should be made to account for it as reflex. After the administration of belladonna to physiological degree, the patient should be re-examined. Belladonna does not differentiate between organic and intrinsic types of hourglass stomach, but it will differentiate between extrinsic and intrinsic types of spasmodic hourglass stomach. (Carmen, R. D., Mayo Clinic, 1919, Vol. x, page 44.)

Ninety-five per cent of duodenal ulcers are demonstrated by x-ray as a definite filling defect of the first portion of the duodenum or bulbar deformity, which is persistent.

The cardinal points in the differential diagnosis of ulcer and cancer of the stomach are: In ulcer, the lesion is a destructive process of the mucosa and when this crater fills with barium, a definite protrusion is noted in the stomach shadow, along with more or less spasm of the stomach which is caused by a cramp of the gastric muscles. In malignant conditions the opposite is true. The pathological lesion is a thickened endurated mass involving the stomach wall and growing inward, causing a lack of filling of the stomach shadow. It is possible to demonstrate the early infiltration within the wall before any mass is palpable, which is the real value in diagnosis of cancer of stomach. After a mass is detected by palpation the x-ray is valuable in determining whether an operation should be undertaken. The favorable sites for operation are—first in the pylorus and pyloric antrum; second in the central portion of the stomach on the greater curvature; third and less favorable is the cardiac end.

The production of a pneumoperitoneum by the introduction of gas or air into the abdominal cavity, has opened up an entirely new field in diagnosis and has made it possible to actually

visualize the different organs within the abdomen by means of the x-ray. The recent work of Dr. Stewart of New York has demonstrated its value and has shown no ill effects from this method. Dr. Stewart produces a pneumoperitoneum by injecting enough pure oxygen into the abdominal cavity to distend the abdomen and not cause the patient any pain. The oxygen is introduced through an ordinary trocar which has been inserted by the surgeon under aseptic conditions, only a local anesthetic is used. The gas is absorbed after two or three days with no ill effect.

After the abdomen is filled with gas the patient is examined by the x-ray in the ordinary way. The gas being light has a tendency to accumulate in the upper portion of the abdominal cavity changing as the patient is placed in different positions. The intestines gravitate to the lowest portion.

It is actually possible to visualize under the fluoroscope, the spleen, liver and kidneys, and by using contrast meal, the stomach and intestines.

On x-ray plates one can see in addition to the larger organs, the uterus, ovaries and broad ligaments.

It is possible by this method to separate the diaphragm from the top of the liver, and an opportunity is afforded to study conditions which heretofore have been perplexing problems. Quoting from Dr. Stewart and Arthur Stine. (*American Journal of Roentgenology*, Vol. vi, November, 1919, page 533):

We have examined altogether thirty-seven cases, the results of which investigations have been somewhat startling. Not only did we find the diaphragm completely separated from the liver and obtain a detail of the liver that had never before seemed possible, but in addition we succeeded in accurately outlining the spleen with its pedicle, both kidneys, and under special technique we obtained shadows of the uterine appendages. In one case we were able to detect a chain of enlarged mesenteric glands. Intra-peritoneal adhesions, especially involving the anterior abdominal wall, were easily shown. It was thus demonstrated that this method opened up an entirely new field for investigation, particularly of the parenchymatous abdominal organs.

The patient frequently complains of a sense of fullness from the distention, and may have some pain in the shoulders, especially the right, probably caused by pressure on the diaphragm. This pain varies in intensity, usually gradually disappearing within a few hours. Only three cases in our series have required an opiate.

The two factors that must be considered in the use of this method are the danger of infection and the risk of puncturing the intestines. The first can be overcome by the ordinary precautions; regarding

the second objection we feel that with care there is absolutely no danger of puncturing the intestine. In our series of thirty-seven cases we have never experienced the least difficulty."

In conclusion I wish to emphasize the importance of cooperation between the physician referring the case for examination and the roentgenologist, and when the roentgenologist is considered a consultant, and all the evidence carefully considered with a careful correlation, we will be reaching the goal we wish to attain, that is, a correct diagnosis.

Discussion

Dr. Arthur W. Erskine, Cedar Rapids—The subject which Dr. Burcham has presented, which really comprises the possibilities and limitations of x-rays in surgical diagnosis, is so broad that he could do no more than touch the high spots, and it is equally impossible for me to add anything to what he has said except to emphasize certain points. In surgical diagnosis the first question to be answered is, of course, this: Is the case a surgical case or a medical one? When we have determined that it is a case for surgery, especially in abdominal conditions, a split-hair diagnosis is neither desirable nor necessary. In fact, if the patient is going to be submitted to an exploratory laparotomy it is better to save his money. Another point is that by x-ray examination we may eliminate useless operations in hopeless cases. I believe Dr. C. H. Mayo is responsible for the statement that something like 90 per cent of carcinomata of the breast in cases that have existed for a year, have mediastinal metastases. Such a case will live longer and do better without operation. The presence of mediastinal metastases can be quite readily determined by x-ray examination of the chest. Another example is tumor in the abdomen which is shown by x-ray examination or by other means to be carcinoma. Many of these patients will do better to have their operation deferred until such time as there might be some acute symptoms such as obstruction. In regard to the value of negative reports, I think we can safely say that a negative x-ray report on a gastro-intestinal examination means almost invariably that no organic disease is present. There are two more points I want to mention. One is the value to the surgeon of cooperation with the roentgenologist in the way of furnishing the history, and not only this, but giving definite directions as to the information he wants from the roentgenologist. We sometimes receive a card introducing a certain patient, and merely saying: "Examine the head." I know that none of you would do that, but some people do. That may mean to determine whether there is a tumor in the sella turcica, it may mean simply the examination of the tongue, the teeth, the sinuses—any one of a dozen things. It is a great help to the x-ray specialist at least to receive definite directions as to the information required. In cases where the interpretation of findings is desired it is

well also to furnish the consulting roentgenologist with the detailed history of the case and with the results of physical examination. This is especially true in chest conditions. We know that we cannot cut skin without leaving a scar which will remain until the end of the individual's life. It is equally true that disease or a destructive process in the lung leaves a scar that will last until death. Whether that scar means anything, whether it has been there for six months, a year or ten years, the x-ray specialist can not say. He can simply say that the scar is there.

Dr. J. W. Rowntree, Waterloo—Dr. Burcham has given us a very excellent review of general conditions for which the x-ray is valuable. It was my good fortune to be living at Rochester during the gathering of the statistics quoted. I was working in pathology at that time. I have seen the x-ray clear up the diagnosis of carcinoma of the stomach in a large percentage of cases, and the same in regard to duodenal ulcers. In examining the genitourinary tract for stone, it is absolutely necessary to examine the whole tract. All of us have seen stone on the left side and clinical symptoms on the right, and vice versa, so we must make detailed examination. One reason they succeed so well at the Mayo Clinic is because they put every case through all the laboratory technic. By this method one will make fewer mistakes in diagnosis.

Dr. John C. Hancock, Dubuque—I would like to ask a couple of questions: First, several years ago I had a talk with Cole of New York and George of Boston, in regard to the reliability of x-ray findings in cases of gall-stones. George maintained that cases negative to x-ray and negative to operation, plus the cases positive to x-ray and positive to operation, made 85 per cent of accuracy. Cole was not prepared to go that far, but concluded that there was about 50 per cent of accuracy. I would like to know if there are any statistics which give a closer record than that. Second, when in Vienna in 1914 some of the gynecological surgeons had abandoned hysterectomy for carcinoma and myofibroma in favor of x-ray treatment. At that time they had not done a hysterectomy for six months and expected never to do another. They demonstrated cases in the early and intermediate conditions as well as in the final stages, and one would not believe that results such as they described were obtainable unless one had every reason to believe the men were honest. They showed us the cases and told us something about the technic. Not knowing much about the x-ray, all I could gather was that they used the intensifying screen and doses of 10,000. If this procedure is being carried out in this country I would like to know how successful it is.

Dr. Burcham—Dr. Hancock mentioned Dr. Cole and Dr. George in connection with the diagnosis of gall-stones by means of the x-ray. I did not bring up the question of gall-stones, because, in my opinion, the x-ray at the present time is not of a great

deal of value in the diagnosis of gall-stones. Dr. Leonard and Dr. George have covered the field very thoroughly and probably have done more research work in that line than anybody else in the country. They reported before the American Roentgen Ray Society that they could show 75 per cent of gall-stones, and the members thought that was high. X-ray negative findings relative to gall-stones are of no value whatever. In regard to the treatment of fibroids, there is a certain type of these cases that respond very readily to roentgen therapy. Dr. Hancock stated that they used intensifying screens. He probably means to convey the idea that they are using filters in treatment.

SYMPOSIUM ON SURGICAL DIAGNOSIS

PART V. SUMMARY: THE FINAL CORRELATION*

CHAS. S. JAMES, M.D., F.A.C.S., Centerville

Surgical diagnosis is an art, a science and an intuition. Illogical deductions may be drawn from accurate facts, but more often logical deductions are drawn from inaccurate facts. However these errors in diagnosis occur they lead to lack of confidence and discredit on the part of the general public.

Cabot, in a recent article, "Diagnostic Pit-Falls Identified During the Study of 3000 Autopsies," (Cabot R. C., J. A. M. A., December 28, page 2295), has pointed out that the post-mortem findings reveal a high percentage of incorrect clinical diagnoses. This observation, coming from the Massachusetts General Hospital with its highly trained, coordinated staff, justifies a careful introspective survey of our activities as diagnosticians. Abrahams, in his article, "Common Errors in Diagnosis," (Practitioner London, 1914, xciv 380), classifies errors on the part of the profession as due to (1) ignorance; (2) faulty judgment; (3) obsession; (4) failure to think anatomically; (5) failure to think at all; (6) reluctance to accept responsibility; (7) inherent difficulties in the case; (8) incomplete examination.

Diagnostic errors due to lack of time or thorough study will be materially lessened when physicians resolve to study each case thoroughly, with all the equipment that they have at their disposal. We can not all be leaders or pioneers but we can at least be intelligent followers.

In the building of a final diagnosis the completed structure necessarily rests upon the firm foundation represented by the case history. A great European physician once said, "The care-

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ful, well trained clinician should make his diagnosis from the history and the rest of the examination should be simply confirmatory."

The taking of the case history is an art. While questioning the patient, the examiner should note his general characteristics, the demeanor, the psychological conditions, the accuracy with which statements are made. He should endeavor to dispel fear, shyness, and to encourage confidence. Attention should be carefully paid to what are apparently minor facts, as no point is so small, no symptom so slight, but that it may have an important bearing on the final diagnosis. It is advisable that every diagnostician, however far he may deviate from a definite routine plan in the individual case, nevertheless should have a well planned, frequently added to, perfected, definite systematic routine, for the securing of his history and the making of his physical examination.

Many patients are very tiresome in the way they describe their symptoms, and often lay far too much stress on unimportant details and divulge the really important facts in an irrelevant mass of verbal surplusage. Much of this, however, can be avoided by the history taker without asking leading questions, but, by directing the patient's relation of symptoms and their sequence, make it much easier than it appears to separate the really important points of their history from those which are trivial.

It is a practice adopted by many clinicians to request the patient not to relate what physicians have told them, and to abstain from giving any statements of opinion that may have already been made by other observers whether skilled or not. This policy is oftentimes of invaluable aid in securing the patient's confidence, in clarifying the character of their statements, holding them in this way to a strict relation of symptoms rather than others' opinions. By this policy, when the clinician's diagnosis is finally rendered, the patient has the greater confidence in its being what it purports to be: the opinion of the examiner and not the expression of an effort to agree or disagree with some one else.

It is to be remembered that the clinical evidences of disease, as revealed by the physical examination, are the most important. The other results and findings add, elaborate, and substantiate the bedside findings but they never wholly replace them. Wm. Jenner is noted as saying, "More mistakes are made by want of looking than by want of knowing." In the making of a physical examination we should exercise great care to get all our clinical observations correct. We should cultivate our faculties to take single, correct ob-

servations, thus avoiding the repetition of the procedures, time after time, to assure ourselves of their accuracy. This repetition is not only a waste of time but often adds materially to the suffering of the patient.

The symptom for which the patient seeks relief may be secondary to a primary lesion which is forgotten or unnoted until it is revealed by a thorough, routine examination. Or again, the evidences of severe respiratory, cardiac, nephritic or other constitutional diseases may contraindicate the proposed surgical procedure that would otherwise be employed.

In this day of highly developed laboratory activities the clinician is not justified in the omission of any of the tests or procedures of recognized merit indicated, or applicable to the case under his consideration. Consult freely with the laboratorian as to the clinical details of your case. If more team work is indulged in you will become a better and more efficient surgeon.

We should also call on the roentgenologist as a consultant, not as a man to take pictures and to give us a report as to the negative or positive character of his examination, but should consult with him in every sense of the word. The surgeon should spend much time in the roentgen laboratory, seeing, feeling, and studying, for thus he will render his best service to his patient, and more correctly appreciate, weigh, and interpret the reports of the roentgenologist when he receives them.

It must be conceded that roentgenology has put gastrointestinal diagnosis on a new and sounder bases, changing the current conception of many of the abdominal complaints, and demonstrating some abnormalities with unerring accuracy which on the operating table would usually be overlooked. Nevertheless, there are definite limitations, and the very fact that so much reliance is now placed on the x-ray makes it desirable that these limitations be admitted and generally understood. The laity should be taught that a radiograph is not a diagnosis but a source of data on which opinions may be based with the widest range of values.

An incomplete, or careless radiographic examination is worse than no examination at all. An examination made by an incompetent roentgenologist technician or commercial employe is frequently worse than nothing. In the gastrointestinal diseases we have movable, functioning organs to deal with, so that a wide experience is necessary in interpretation if we wish to avoid mistakes.

In nearly every condition osseous in character

the roentgen ray is of paramount use. Pyelography affords very valuable information in the differential diagnosis of many of the pathological conditions of the kidney, as pyelitis from perinephritic abscesses, abdominal from renal tumors, congenital malformed kidney, hydronephrosis, calculi of the kidney, extent of kidney destruction, dilated ureters and ureteral stones.

The surgeon who attempts to locate renal calculi by opening the kidney and searching for the stone with his finger without prior radiographic localization is in the same antiquated class as the man who uses a stone searcher instead of a cystoscope. For he is not only apt to overlook small stones, but, because the stone is hidden in a calix, will often operate unsuccessfully, needlessly exposing his patient to danger and expense, and thus bring unnecessary discredit to the science of surgery.

Accurate diagnosis depends not only on definite symptoms but on a recognition of their relative significance. One definite sign is of far greater value than many uncertain ones, and is often all that is necessary upon which to base the final diagnosis. Not observing this simple rule renders the differential diagnosis oftentimes difficult.

It is observed that the correctness of the diagnosis will depend first upon the fullness and the accuracy of the information obtained, second upon the experience and knowledge of surgery possessed by the clinician which enables him to reason correctly upon the information he has obtained. Accurate information upon the various points of the case will not suffice for a correct and reliable diagnosis unless a knowledge of surgical pathology, as well as a certain amount of practical experience be possessed by the clinician.

Surgical diagnosis should be more than the mere fitting of a name to a diseased condition. It should aim at ascertaining, as accurately as possible, not only that the patient's condition deviates from that of normal, but also the extent of the deviation. The diagnosis of a rare disease should not be made unless its features and characteristics are unmistakable, or until the possibilities of its being some more common disease have been carefully excluded. It is only by careful attention to this precept that the law of probability can be taken advantage of to afford one an increased percentage of correct diagnoses.

Success in diagnosis depends upon a careful elicitation of the patient's history, symptoms and thorough routine physical examination and their logical interpretation, requiring on the part of the diagnostician painstaking effort and the sharp use of all his senses, and last, his keenest judg-

ment. Experience trains his discriminating faculties, teaches him the relative clinical importance of the facts, and helps him to draw conclusions correctly and accurately. No diagnosis should rest on intuition alone, but should be based upon a well correlated, careful weighing of the case history, the physical examination, laboratory findings, x-ray and other procedures, yielding true and basic information.

When the entire examination of the case has been completed and a diagnosis more or less complete has been made, it is well to again review all the factors that have been elicited and arrive at the diagnosis by exclusion. Thus one is less liable to overlook some possible diagnosis which perhaps had not hitherto occurred to one's mind. And by exercising this wholesome mental effort a mistaken diagnosis may at the last moment be avoided.

Of late years surgical treatment has become very largely operative and in the course of too many operations the true nature of the case is more often cleared up than is consistent with the positiveness of our pre-operative surgical diagnosis. This is a just criticism and one that we should cooperate in bending our every energy, so that in an increasing frequency of cases will the operative findings exactly coincide with the pre-operative diagnosis. An accurate diagnosis will often obviate a useless operation and nothing facilitates or expedites an operative procedure more than an exact knowledge of the conditions to be dealt with. The fact that the case is to be submitted to operation should be looked upon as a means of testing our diagnostic skill and its value as such is enormous and should on no account be lost.

To enhance the value of this to us as clinicians, I strongly urge the necessity of full and complete case records. The record of a patient's pre-operative diagnosis, when entered in ink, should be carefully compared with the operative findings and ultimately with the end results. Nothing will contribute more to the formation of habits of correctness in diagnosis, or in my opinion, is more essential to the ultimate success of the clinician than the keeping of thorough and complete case records. Many criticize this procedure asserting that they are too busy, but this statement is disproved by the fact that it is the universal practice of the busiest and most successful members of our profession. When one justifies his action in not keeping complete written records of cases, he is simply acknowledging thereby his superficial investigation of their advantages and elements of time saving.

With extreme courtesy and thoughtfulness, one should thoroughly divorce sentiment and preconceived conception in the building of the completed diagnosis, for sentiment plays no part in scientific medicine. We, as diagnosticians, must see things as they are, tell of them as they appear, correctly investigate and interpret the existing physiological and pathological conditions and then compel ourselves, irrespective of our sentiments to follow the dictates of the physiologic and pathologic laws covering the physical state found. If we are to be successful and advance in our profession, we have no option, but, as in finance or business, must deal with facts. Maximum results can only be attained through systematized organization and equipment, for it is only thus that we can obtain the largest per cent of correct diagnoses, upon which lies the largest per cent of most favorable end results following our instituted surgical procedures.

ACIDOSIS—AN EXPLANATION OF THIS CONDITION*

THOMAS BYRNES, M.D., Atlantic

Medicine is a science whose logical base is primarily and ultimately founded upon the fundamentals of chemistry and physics; the value of blood chemistry to the practitioner depends upon the extent to which it can be accurately utilized for the benefit of his patients. Within the scope of this information certain practical facts are in evidence and it is an endeavor to crystalize in some manner their meaning that the present communication is offered. At the outset, I wish to be definite with regard to a certain point, in that, these methods have their greatest diagnostic value in early cases and not to such a great degree in the later types.

"Acidity or increasing acidity of the human economy" is a term that is oftentimes, but erroneously, applied in order to designate a certain characteristic syndrome. This is a state of the system that can never be while life lasts. The acid point is death; therefore it becomes my privilege to properly interpret the term of acidosis and to deal largely in this, my primary contribution, with etiology and the significance of its relations.

The acid equilibrium, or content, as it were, has a fixed ratio at all times—an excess, as above stated, is the acid death point or anything above this fixed relation. We may, and do have "coef-

ficients," figures indicating the degree of physical or chemical alterations characteristic of a given substance under stated conditions, and it is this factor that is the regulators of hypo or hyper conditions relative to bases only, and not radicles.

The alkaline reaction is essential to many vital processes taking place in the interior, and is present, without exception in the animal fluids which are contained in the circulation and the closed cavities of the body. An acid reaction, on the other hand, is found only in a few of the organic fluids which are employed in the process of digestion or are discharged externally.

Two factors concern us in our estimates. First, nature's method of producing and maintaining the state of alkalinity. Second, the cause of decreasing alkalinity, or acidosis.

In the oxidation reduction of the protein molecule, we have an atom of sulphur split off and eliminated from the molecule. This is done at two points, first, in some of the epithelial cells that enter into the construction of the mucous membrane of the stomach, which reaction results in the production of a molecule of sulphuric acid as soon as it drops from the surface of the free cell, comes in contact with a molecule of sodium chloride, which formation is a molecule of hydrochloric and one of sodium sulphate. Now then, after the hydrochloric acid has served its purpose in the digestive act, it in turn attacks the trisodic phosphate, restoring the sodium chloride lost in making the hydrochloric acid and sodium sulphate, with the formation of the disodic monohydrogen phosphate, which salt is the true physiological alkalizer of the body. This further proves why the elimination of the inorganic sulphates is always greater than the intake and nature's method of producing for herself, daily, a slight amount of laxative in the form of Glauber salts. This also proves conclusively that we can not have perfect metabolism without this salt and that placing a patient on a salt free diet is not based on sound physiological chemistry. It further demonstrates how the animal economy acquires its daily supply of disodic-monohydrogen phosphate, which salt is not found in this form in the foodstuffs and without which perfect metabolism cannot be maintained. With these facts, we are in a position to study the problem of decreasing alkalinity of the system, how it is brought about, what happens when it does occur, and how best to cope successfully with this abnormal state. There are two etiological factors to be considered. First, the use of food deficient in the trisodic phosphate and other mineral salts. The deficiency in mineral salts is due,

*Read before the Cass County Medical Society, October 20, 1920.
A second paper is to follow on the therapy based on the conclusions presented in the first paper.

largely, to the common method of cooking vegetables, denuded of their protective skins. The water in which they are cooked is thrown away, and with it the mineral salts—salts without which there can be no perfect metabolism.

The second etiological factor is the arrest of, or diminished oxidation of the protein substance in the cells of the gastric mucous membrane, described above. This results in a deficient production of sulphuric acid, hence less hydrochloric acid and sodium phosphate and less hydrochloric acid to transform the trisodic monohydrogen phosphate. Under these conditions de-alkalinization takes place very rapidly, so much so, that nature attempts to overcome the difficulty by pulling the fixed alkalies from their stable position in the teeth, bones and other structures of the body. Failing to overcome this, a very positive decreased alkalinity is developed, improper assimilation and the state of acidosis.

If for any reason we have an unusually large percentage of protein material oxidized in the gastric cells, it produces the condition of hyperchlorhydria; this then, overtakes the oxygenating capacity of the system, and is, in itself another factor in disturbing metabolism, or it may occur as the result of vicarious oxidation of the protein material in these gastric cells, that is, by all the sulphur atoms being split off in the gastric cells, leaving no sulphur for the liver to produce its daily production of taurocholic acid. These two conditions must be differentiated in order to enable us to apply our therapeutic measures scientifically.

If we have an abundance of trisodic phosphate in connection with the hyperchlorhydria, there will be produced an unusual amount of disodium, monohydrogen phosphate. This causes an excessive alkalinity of the body fluids and structures and if carried too far will be detrimental to perfect metabolism. Nature, however, attempts to speedily eliminate this alkaline excess, but in so doing the urine becomes unduly alkaline, which is another source of irritation.

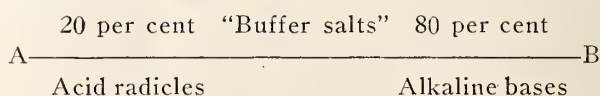
From the foregoing, it is readily apparent that a defective metabolism may be caused by directly opposite conditions, by a decreased alkalinity or an increased alkalinity of the body fluids and structures. In any event the animal economy remains alkaline, and always must, so long as life lasts. The treatment, however is radically different. There is more apt to be a deficiency of trisodium phosphate, than an excess. A superalkaline state is not often met within actual practice, however, I shall in subsequent expressions, point out how the misapplied therapy, together

with other factors, does bring it about. Thus you can readily understand under these circumstances, why assimilation remains impaired, even though the quantity and composition of the food is good, aside from defects in the mineral salts. For instance, Professor Jacobi speaking of the rachitic child, used to say "There is plenty of calcium but it cannot be fixed in position. Giving more does no good, and how can it when there is a constant de-alkalinization pulling down the fixed alkalies from the structures of the body.

Nature further eliminates the sulphur atom in the hepatic cells; here the remaining sulphur atom in the protein material, not oxidized in the gastric epithelia, is reduced by a process of oxidation reduction with the formation of taurocholic acid, biliverdine, a leucomaine product, carbon dioxide and water. When this condition is developed the normal balance between the stomach and liver elimination of sulphur is disarranged. Thus we have another contention in connection with the problem of de-alkalinization.

An acidosis, therefore, is a diminution, from any cause, in the reserve supply of fixed bases in the blood or tissues, the physico-chemical reaction of the blood remaining unchanged, hence it is only necessary to classify, and not sub-divide, the theory upon which acidosis rests—thus we have—

First, over production of acid due to deficient oxygen, such as severe exercise, mountain sickness, acute anemia, gas poisoning, asphyxia and decompensated heart lesion; second, conditions where a primary lack of oxygen leads to a compensatory raising of the threshold for acid, such as acidosis of pregnancy. Third, metabolic conditions in which abnormal acids are produced in large amounts such as diabetes mellitus, starvation, post-operative toxemias, diarrhoea, and cyclic vomiting in children. Fourth, kidney inefficiency (such as chronic nephritis, etc.). In any well defined effort our first thought should be to collect your facts, and then adjust your problems to these facts; second, assume a plausible hypothesis and then prove your hypothesis. Now if we imagine all the blood in the body to be represented by a straight line A to B:



The blood is a fluid, which from a chemical standpoint is composed, approximately of 80 per cent of alkaline bases and 20 per cent of acid radicles. This proportion, which usually is remarkably constant, is held in balance by what

Rowntree of Minneapolis beautifully describes as "the buffer salts of the blood." Then if the blood is thus delicately in balance, it is possible to eat almost any quantity or variety of food and the end results of all food metabolism, be it either that of an alkaline base or of an acid radicle, will be the same, for the "buffer" promptly takes up an excess on either side and thus the balance is not materially changed. If however, anything goes wrong with the "buffer" trouble begins and we have an acidosis or alkalosis, as the case may be, either of which if prolonged produce serious conditions. Now, if we analyze a little more in detail, our diagram, what are the facts about our 20 per cent of acid radicles of this 15 per cent of its bulk is made up of volatile acids—this is thrown off, principally through the lungs as CO₂ gas. The 85 per cent of the non-volatile acids are excreted principally through the urine and slightly the feces.

15 per cent—Volatile acids CO₂—lungs.

85 per cent—Non-volatile acids—urine and feces.

Then if the non-volatile acids as a result of deficient elimination, accumulate in the blood, the volatile acids will be thereby compressed and the amount of CO₂ will have to be increased and the power to hold the breath will be diminished. This is the rational explanation of the clinical value of the breath holding test of Dr. Henderson.

Dr. Hamburger of Gromminger, Holland, states in the British Medical Journal in regard to mild degrees of acidosis on the leucocytes, in regard to their phagocytic action that normal white blood cells in a blood with a proper balance between alkali and acid bodies can normally take up 50 per cent of their bulk in bacteria, but the instant this balance is lost even to a slight degree, they absorb only 25 per cent of phagocytes. This shows the practical bearings associated with acidosis, alkalies are always indicated in order to raise the powers of our leucocytes to resist disease. Then how do we differentiate between a tissue and blood acidosis? Which begins first? Does the tissue acidosis affect the blood or vice versa? Fisher and Henderson assume that the process begins in the cells and through the cells ultimately reaches the blood. Clinically it seems as though the acidosis should reach the cells through the blood. Therefore we must estimate the power of our "buffer" in determining; the following simple tests are given as being concise and adequate.

First—The breath holding tests of Henderson.

Second—Litmus paper test—saliva—normal is alkaline before meals, acid after;

Urine—Normal acid.

Stool—Normal alkaline.

1. Reaction of blood serum to phthalein.
2. Ingestion of sodium bicarbonate on reaction of urine. Sellardo test; 5 gm. sodi bicarbonate is given by mouth; the urine should be neutral or alkaline in three hours if normal.

Bruce's test for stool—prepare a 1 per cent solution of alizarin, place then on a slide two drops of this solution 1½ inches apart; one of these drops is the control. Use a glass rod which has been dipped into feces. Mix thoroughly with one of the drops. Acid reaction—light yellow. Neutral—no change.

Mitchell's test—the iodine color test for existence of acidosis. Water 145 c.c., 3 c.c. Lugol's solution, and 2 c.c. saturated solution of picric acid. Mix thoroughly. The result is a clear bright reddish liquid. Pour this liquid into a white dish and heat gently (do not boil) until fumes are abundantly given off. To this add normal acid urine; up to 15 c.c. it does not change color. Urine which indicates an acidosis in amounts from 2 c.c. to 10 c.c. will change the color from a bright reddish color to a bright yellow.

Thus in conclusion—during protein digestion, the sulphur and phosphorus are oxidized to sulphuric acid and phosphoric acid. These would acidify the blood at once were it not for the presence in the blood of salts of sodium, potassium, calcium and magnesium. When these fixed alkalies are insufficient to neutralize the acids produced, the organism makes use of a mechanism for neutralizing the excess as follows:

Amino acids passing through the liver and muscles are de-amidized, the amino group is broken off and changed to ammonia, this ammonia together with water and CO₂ is converted into urea and excreted. If on the other hand the blood stream brings to the liver unneutralized sulphuric acid and phosphoric acid molecules, owing to lack of fixed alkali, then the ammonia neutralizes the acids and is excreted as ammonia salts, thus the more acids produced in the organism the more ammonia salts and less urea are found in the urine and vice versa.

The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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MEDICAL COORDINATION AND CO-OPERATION

Every member of the Iowa State Medical Society should read with diligent care, and in a prayerful state of mind, the address of President Donald Macrea, published in this number of the Journal. For two or three years a state of unrest and uncertainty has existed among medical practitioners, and like many other things, has been generally attributed to the conditions of war: but as a matter of fact, the war was the test of the efficiency of medical organization. This was true of many other things. In almost all directions, men of far-seeing vision felt the need of closer co-ordination and a revision of the methods of the past. In medicine this is none the less true. A generation ago, the practice of medicine and surgery was based largely on experience and on physical determinations. To this has been added a knowledge of biology, physics and chemistry. Then, the medical practitioner was both physician and surgeon and generally his own specialist. The practice of medicine was individualistic because each doctor had within himself all the functions of every other doctor. When, however, the discoveries above referred to were utilized by physicians the individualistic relationship was scientifically impossible, but the fact was not realized except in isolated instances, there was offered much resistance and resentment. Then came the war and its experiences. The necessity of co-ordination of knowl-

edge, experience and skill was so apparent that no question could be raised, then, physicians accustomed to the individualistic methods of practice were fitted into positions they were thought best to fill, after trial; again they became resentful because of the violence done to their former training and experience. Now, after two years of effort to fit themselves into their former individualistic relationship to the practice of medicine, in violation to the laws of progress, they discover that they cannot fill the requirements of the times and are now resentful to the world for conditions that they themselves are in large measure responsible for.

Dr. Macrea with his experiences in civil and military practice was among the first to discover the nature of the malady from which the profession is suffering and in his address has presented a very clear diagnosis, and has pointed out the first line of treatment. The address was fortunate in its presentation; the vigor and force of the language used, the absolute sincerity as shown in the manner and personality of the orator, and the opportune time, left an impression on the audience rarely witnessed.

When the House of Delegates convened on the following morning, there was scarcely need of a committee report, or the presentation of the accompanying resolution adopted by the general convention, to receive an enthusiastic consideration by the legislative body of the society. The only question was of the moment when the treatment should be commenced and the method to be put into operation. There was danger of violating the plain language of the by-laws and setting aside the deliberately devised means of protecting the interests of the organization against hasty legislation. It was fortunate that there were conservative members present who saw the danger and invoked the restraining provisions of the organic law of the society. It will be seen on a careful reading of the resolutions, that (see Transactions July Number of the Journal) provisions were made for an executive secretary or a publicity agent or something of the kind, without even providing a title, at a cost not to exceed \$5,000, and without providing for the funds except that an order be approved by the board of trustees to be paid by the Treasurer, notwithstanding the fact, that the collection and disbursements of the money of the Society are specifically provided for in the by-laws. This difficulty could of course be cured by amending the by-laws, but this could not be done, as this was the last session of the House of Delegates until the session of 1922. A more conservative measure

was adopted which provided for a committee of which the incoming president should be one, to consider a plan of organization with power to act at the earliest moment.

This apparent criticism is presented for two reasons: First: to show the enthusiasm manifested in support of a remedy for admitted evil conditions, and second; to present some considerations on a subject already discussed in this Journal and in other jurisdictions, and for the deliberate consideration of a plan which in all its bearings is quite revolutionary in character.

It was a wise provision that the president of the Society should be a member of this very important committee. It is quite in the nature of things that the incoming president should entertain an honest desire to have his administration a success and therefore it is fair to assume that the matter placed in the hands of this committee will have early and earnest consideration.

As we understand the purpose of the resolutions and the discussion in the House of Delegates was the employment of a business agent, not a medical man, but one familiar with the affairs of the state and the aspirations of the medical profession; a man familiar with the methods of organization and co-operation.

There are several important facts to be considered; first, methods of co-operation in the practice of medicine. We must not lose sight of the relationship of the general public. We must take into account the fact that there is some feeling abroad that the profession is not giving to the public, all that the present advanced state of medical science warrants; not because the profession is dishonest or incompetent, but because it is not organized in such a way as to give to the public the best that can be given, there is insufficient co-operation and except in a comparatively few instances the practice of medicine is individualistic and is conducted much as it was thirty or forty years ago, even if as well. The public do not believe that this is as it should be. Then there is a kind of co-operation that has created a grave suspicion on the part of the public, the division of fees, on a basis which considers only the ability or willingness of the patient to pay. Then there is the question of dangerous and unsatisfactory operations without a diagnosis based on the present advanced state of medical science.

Then there is the present unfriendly attitude of the public as expressed by legislation. This should be a matter of serious consideration by the committee. Does the fault lie exactly with the public, or is it in part due to the business meth-

ods of the profession? A matter worthy of consideration is cooperation in the way of group diagnosis and therapeutics and community hospitals.

It is not uncommon for an intelligent patient to go from one doctor to another, and get a variety of opinions, often conflicting, which finally leads him to consult a Christian Scientist or a Chiropractor, sometimes to the discredit of the regular physician. Is there not some way of obviating this? It does seem that if careful and conscientious physicians would group together something could be done.

If we assume that no fault lies with us and the public is altogether to blame for present conditions, then we may expect that the state will take the matter in hand and do as Lloyd George did in England and secure better service for the public under the panel system. We ought to escape this, and I believe we can, and it will be for the committee to look into this.

The committee which will be appointed will be too wise to trust to resolutions and reports but to actual work. How may this be done? The writer believes that nothing will be accomplished unless the profession understand the object and purpose of this campaign and cooperate. As soon as this committee has organized and arranged its plans, members of the committee together with its business agent should visit the various county societies and present the plan of cooperation, and delegate if need be, others to aid. We believe that the time is ripe for this work. There are several county societies at work on cooperative plans of one kind or another, but it would aid materially if there was an uniformity of plan.

We feel quite sure of a real interest in betterment plans from the reports of secretaries and from newspaper reports.

The plan, whatever it may be will require an expenditure of money, which must be provided for outside the State Society treasury, for the House of Delegates could not appropriate from our accumulated funds, or increase the dues without a change in the by-laws. As already stated the matter came too late for a change until 1922. The expenses of the committee should be paid and the salary of the executive secretary. If the county societies would make an assessment of \$3 per member for the current year and at the annual meeting in 1922, the State Society dues could be increased to \$8 if thought best. In financing a matter of this kind enthusiastic promises to pay does not form a safe basis for operation. In any event as this is really a safety measure for the entire profession of the state, expenses should be

paid by the entire profession by an assessment of \$3 on county society members, and if the plan works well, increase the state dues. If the profession are really in earnest in organizing the scheme, they will be prepared to change the by-laws next year. It will be noted that any personal contributions or special county appropriations should be paid to the secretary of the State Society and paid out on vouchers as are the permanent funds.

The Journal will watch with interest the working of this plan and will contribute its pages liberally in the interest of this propaganda.

Since writing the above we have had the opportunity to listen to, and participate in a discussion on the subject above referred to. The American Association of Medical Editors invited a group of men known to be interested in health centers, community hospitals, in group practice, and diagnostic clinics. These men were nearly all from the Eastern states and represented the large cities of the Atlantic coast, and the New England, New York, and Pennsylvania country districts. It was apparent that their problem was quite different from ours. Dr. Alexander Lambert presented the subject in the broadest manner and took occasion to say that he was not in favor of "State Medicine" or "Compulsory Health Insurance" and that his opponents had persistently misrepresented him in his efforts to secure a modification of present methods of practice. It was shown that in the country districts of New York, there had been a falling off of 12 per cent in the number of physicians and an increase of 5 per cent in population (including the fractions, a reduction of about 18 per cent loss in physicians) and a corresponding increase in the number of physicians in the larger cities, most of whom were taking up some specialty. This migration of physicians to the cities had worked harmfully in two directions; it had deprived the country districts of adequate medical service and in many instances worked a serious hardship which could not be compensated for by the automobile and good roads, and was leading to a feeling that the public must be served by lowering the standard of medical education or, that in some way it was the duty of the state to provide adequate medical service for its citizens. It was further shown that the physicians remaining in the country villages were mostly old men and that no younger men were locating in these villages, and therefore in a few years, many communities would be without physicians.

The increasing number of physicians in the

cities and the expenses of practice and living lead to methods of practice that discredited the profession. If the physician did not have an independent income he was liable to meet with periods of distress which might induce him to resort to questionable methods, which would lead the public to turn to Christian Science, or Chiropractors, as the lesser evil. It was shown that the great medical schools were limiting their classes to smaller numbers for the purposes of greater teaching efficiency.

It is not shown that there is a real shortage of physicians but an unfortunate distribution. It is not easy to see what can be done to drive the young medical graduate to the country villages instead of to the cities. But some remedy must be found and that from the physicians themselves.

A canvass of the situation will easily show that the young medical graduate with his scientific training cannot be attracted to a location where he will have no opportunity to use much of the knowledge he has so painfully and expensively acquired. It does not appear desirable to lower the standards of medical education.

After presenting the conditions existing in Iowa where we have no large cities, no impoverished villages, very little poverty and an enterprising profession, it appeared that here was the field for constructive work. Already in Iowa legislation had provided for the building of county or community hospitals which had been done in several counties and in many others the question had been actively agitated with a hope as to the future. In others, individual citizens or groups of citizens had provided the money and it will not be many years when well equipped community hospitals will be provided, with groups of physicians working together for the common good. In our larger cities there are already hospitals controlled by church organizations that are becoming interested and will in time functionate for community purposes, when the public discovers the need of more liberal financial support. Under the head of medical-community-group activities may be mentioned Grinnell and Creston. If our readers will look over the altogether too brief county medical society reports, it will be found that in Iowa the "Iowa Idea" has already gained considerable headway. It must not be overlooked that Dr. Sampson was in Boston and laid his views before another body, and was seen and heard in many places about the hotels, and before the associations adjourned the "Iowa Idea" had been incorporated in the minds and understanding of many medical publicists.

Dubuque, Iowa, June 7, 1921.

Dr. D. S. Fairchild, Editor,
Iowa State Medical Society Journal,
Clinton, Iowa.

Dear Doctor Fairchild:—

I have this day appointed Dr. Donald Macrae, of Council Bluffs, and Dr. F. E. Sampson, of Creston, to act on the committee with the writer complying with the resolution adopted by the House of Delegates at Des Moines, Friday, May 13, 1921.

Dr. Tom B. Throckmorton, Secretary of the Iowa State Medical Society, will act as Secretary of the Committee.

Sincerely yours,

A. M. POND.

The attached resolution was passed at the fifty-second annual meeting of the American Medical Editors' Association, June 7th, and the secretary was authorized to send you a copy for publication.

J. E. MACDONALD, JR.,
Sec'y Amer. Med. Editors' Ass'n.

Whereas: The medical restrictions of the Volstead Act, together with its various administrative and other interpretations and rules and regulations and enforcements, etc., constitute in some of their effects, indictment of the medical profession and harrassment of the medical practitioner and the sick, and are obstacles to free pursuit of honest medical judgment and therapeutics, and have reacted to the detriment of society and the public health and are opposed to public policy;

And Whereas: Some of these restrictions and rules and regulations and interpretations, etc., are not based upon consensus of medical experience and practice and established usage;

And Whereas: It is apparent that they have not been framed and interpreted and administered with full appreciation of all matters involved;

And Whereas: The precedent established by the Volstead Act in restricting medical practice, should, if physicians value their therapeutic liberty, be met with a protest that will command attention;

And Whereas: The point at issue is the right of the physician to select his remedies, and to decide what doses of these remedies each patient requires;

And Whereas: This issue in no wise affects and has nothing to do with propaganda either for or against prohibition, but is purely a matter of preserving the necessary rights of the physician in the interests of public health and public policy;

Be It Therefore Resolved: That the American Medical Editors' Association protests against further undue regulation of therapeutic procedure by statutes or by administrative interpretation or regulation;

And Be It Resolved: That the Association requests of the proper authorities a review and revision of such existing statutes or rules or regulations

as may be unduly restrictive of the therapeutic judgment and procedure of physicians.

We ask this for the preservation of the necessary rights of the medical profession and in the name of public welfare and wise public policy.

NEW PUBLIC HEALTH SERVICE HOSPITALS

Washington, May—The hospital program of the U. S. Public Health Service is moving rapidly. Nine new hospitals, which will accommodate more than 3,000 patients, are now being put into shape for early occupancy. Three of these, in Iowa, Montana, and Oregon, with a capacity for about 500 patients, should be in operation within two months. Others will not be ready for a longer time. Especially will this be the case with three army reservations, two of which had been abandoned for ten to twenty months, which were specifically transferred to the service by act of congress.

The Colfax Hotel, at Colfax, Iowa, a leased building with 130 acres of grounds, is being fitted to receive 200 patients. The army hospital at Fort William Henry Harrison, near Helena, Montana, will be opened with 100 general patients, but may later be greatly expanded. Additional money will be necessary to fit the buildings at Dawson Springs, near Hopkinsville, Kentucky, for maximum usefulness; but the necessary funds are expected to be forthcoming and the hospital to be opened with 500 tuberculosis patients within five months. The Hahnemann hospital, at Portland, Oregon, should be ready for 164 general patients by July 1, and the Speedway hospital, at Chicago, for 1000 general patients by August 1.

Of the three army posts specifically turned over by congress, that at Fort Walla Walla is attractively situated near Walla Walla, Washington, on a low plateau near the junction of the fruit and wheat belts. The post has been abandoned for a year and, except for two brick barracks, its buildings are in bad condition and must be rebuilt. It will shelter 284 tuberculosis patients.

Fort McKenzie, one mile northwest of Sheridan, Wyoming, is pleasantly situated against a northern shield of mountains. Its brick buildings surround a fine parade ground, once planted with trees, which, however, have suffered severely from lack of irrigation since the post was abandoned. Most of the region is sparsely timbered.

The red brick buildings of Fort Logan H. Roots, near Little Rock, Arkansas, stand on a bluff overlooking the Arkansas river. During the war some temporary wooden buildings were erected, but most of these have been removed.

Fort McKenzie and Roots are each planned to accommodate more than 600 nervous-mental cases. Each of the three posts is likely to be ready in less than six months.

A naval station, at Gulfport, Mississippi, has just been taken over from the navy by the Public Health Service and will be utilized as a hospital or home either by the service or by some other branch of the government.—United States Public Health Service.

LEGAL LIABILITY FOR TRANSMITTING INFECTION

Washington, June—Personal responsibility for the transmission of venereal diseases has now been upheld in several different phases by both civil and criminal courts, says the U. S. Public Health Service. In Oklahoma a man has been sentenced to five years in the penitentiary for infecting a girl with syphilis. In Nebraska the court upheld a doctor who warned a hotel keeper that one of his patients, a guest at the hotel, had syphilis and had refused treatment and was consequently a menace to the public health. In North Carolina a woman has been awarded \$10,000 damages against her husband for a similar infection and the Supreme Court has upheld the judgment.

The Nebraska case is important because it asserts that a physician's duty to protect the public health may, under certain circumstance, transcend his duty to hold his patient's confidence inviolable. The North Carolina case is also important because it sets aside in this particular case the legal barrier that prevents a wife from testifying against her husband and bringing suit against him.

All three cases are valuable in counteracting incorrect statements, often made, that the venereal disease law falls almost exclusively on women and lets men go free. State laws of course govern in all such cases but the fact that every state in the Union has now adopted many if not all of the venereal-disease laws, gives ground for expecting similar action in other states. Certainly the wide dissemination of the three decisions should go far to curb diseased persons who deliberately expose others to infection.

Curiously enough the District of Columbia is the only part of continental United States that has no venereal laws. Congress, which makes the laws for the district, has not yet acted.

The fact that the North Carolina decision makes it likely that marriage will henceforth be no adequate defense against a suit for transmitting infection will probably hasten the adoption by the states of laws requiring every applicant for a marriage license to present a certificate by a reputable doctor certifying that he is free from venereal disease and providing that without this no license shall be issued.

Twenty states have already adopted laws forbidding persons with venereal disease to marry, seven of these—New Hampshire, New Jersey, North Carolina, Oregon, Washington, and West Virginia—having acted during the present year's sessions. A similar bill is now pending in Florida.

All of the twenty states do not require medical examination and certification that the applicant is

free from venereal disease. "Such a certificate should be required in every state," insists the Public Health Service. "Any decent man with an uncured infection who marries does so either because he does not realize the seriousness of his action or because he believes that he is cured. The necessity for an examination should bring its seriousness home to him and should be welcomed by him as a protection for his wife and children. No real man should object to a medical examination required by law.

COPIES OF SCIENTIFIC ARTICLES

Many scientists lack the library facilities which their work demands. They are compelled either to journey to distant libraries or to try to borrow books by mail. Often it is difficult for them to locate something that is badly needed, and again it may be impossible to borrow it.

The Research Information Service of the National Research Council is prepared to assist investigators by locating scientific publications which are not generally or readily accessible. It will also, as is desired, have manuscripts, printed matter or illustrations copied by photostat or typewriter. The cost of copying varies from 10 cents to 25 cents per page. No charge is made for this service unless an advance estimate of cost has been submitted and approved by correspondent.

Requests for assistance should be addressed, National Research Council, Information Service, 1701 Massachusetts Avenue, Washington, D. C.

IOWA STATE LIBRARY—MEDICAL DEPARTMENT

The Medical Department of the State Library now includes about 5,000 volumes, half of which are journal sets. The larger portion of this year's appropriation has been spent on periodicals, including binding and completion of a number of sets. We are receiving eighty journals at present, a number of State Society Journals coming to us through the courtesy of the State Medical Society. We are planning to keep our journals unbound for several years, the individual numbers being more adaptable to a traveling library system than the heavy bound volumes, also allowing more than one reader the use of the same volume at one time. We will loan current numbers as well as back files of periodicals.

We have added about seventy-five recent books or monographs. These late books have been in demand and have gone into circulation almost immediately upon receipt.

In March of this year we sent out 3,000 circular letters to the physicians of the state. The number of responses has been encouraging and we trust the interest will grow. At the State Meeting in May an exhibit table was maintained at the Hotel Fort Des Moines and a number of inquiries answered.

The following statistics kept from the first of January, 1921, to date, may be of some interest.

Library visitors	269
Out of town requests.....	51
Books loaned	535

We now have complete files of the following journals: American Journal of Anatomy, American Journal of Ophthalmology, third series, American Journal of Public Health, American Journal of Syphilis, American Journal of the Medical Sciences, American Medical Association, Journal; Archives of Diagnosis, Archives of Internal Medicine, Archives of Neurology and Psychiatry, Iowa State Medical Society, Journal; Johns Hopkins Hospital Bulletin, Journal of Bacteriology, Journal of Cancer Research, Journal of Immunology, Journal of Laboratory and Clinical Medicine, Journal of Orthopaedic Surgery, Journal of Pharmacology and Experimental Therapeutics, Medical Record, Surgery, Gynecology and Obstetrics.

Margaret Brinton,
Medical Librarian.

STATE UNIVERSITY NEWS

Don M. Griswold, Iowa City

Miss Helen Stewart, director of the School for Public Health Nursing made a trip to Des Moines in the interest of the School of Public Health Nursing. While in Des Moines Miss Stewart addressed the high school students on the subject "Nursing as a Profession" and also addressed the pupils of the Nurses Training Schools of Mercy Hospital, Iowa Lutheran Hospital, Iowa Congregational Hospital and the Methodist Hospital on the subject "Public Health Nursing as a Career." The dearth of well trained nurses for private duty and for public health projects is one of the serious problems facing the profession today.

Training schools in the leading hospitals and schools giving post graduate courses for Public Health Nursing are making their courses as attractive as possible to get the best grade of women interested in this line of work. "The demand far exceeds the supply and if the serious shortage is to be averted, active recruiting by the medical profession will be necessary.

Dr. W. J. McDonald, director of the Student Health Service, was recently called to Boston by the illness of his father. Because of the urgency of the message he left immediately but will return for the opening of the summer session.

Dr. Samuel T. Orton, director of the State Psychopathic Hospital attended the meeting of the American Medico Psychological Association held in Boston. While in the East, Dr. Orton is selecting equipment for the new Psychopathic Hospital which,

is expected, will be ready for patients by September 1.

Miss Etta M. Bagley, superintendent of nursing of the psychopathic department, has resigned and will soon leave for Boston where she will resume her place in the Boston State Psychopathic Hospital.

Dr. E. M. Medlar, pathologist at the University Hospital addressed the Poweshiek County Medical Society at Grinnell on "The Relation of Chronic Mastitis to Cancer of the Breast." The lecture was illustrated with lantern slides of micro-photographs of sections of tissue that had been collected from pathological specimens.

County medical societies are making frequent requests for members of the faculty of the College of Medicine for local programs.

Dr. C. P. Howard just returned from a trip to Toronto, Canada, and Atlantic City where he presented papers before the medical societies.

Dr. Ruth Okey of the University of California has been appointed assistant professor of home economics of this University and has been detailed to the department of medicine at the University Hospital.

Dr. Loomis, assistant superintendent of Johns Hopkins Hospital has been appointed superintendent of the University Hospital and will take charge September 1.

Miss Ruth Wheeler from Goucher College, Baltimore, has been appointed professor of diatetics at the University Hospital and will assume her duties July 1.

Dr. Edwin G. Banick who recently graduated in the College of Medicine has completed his internship at Mercy Hospital, Davenport, and will take post-graduate work in Chicago this summer.

Dr. J. M. Knott recently died, aged seventy-four, in Los Angeles, California. He practiced in Sioux City for many years prior to his trip to California.

Dr. Don M. Griswold, state epidemiologist, has been called to investigate outbreaks of contagious disease in West Chester, Wellman, Greeley and Littleport within the past month.

Dr. Negus recently received official notice from Washington of his appointment to the rank of major in the medical department of the army. The appointment was made some months before his discharge but it takes some time for the department to execute and deliver the official papers. Hereafter the major will wear a gold leaf on his uniform.—Keswick Leader.

Minutes of the Iowa State Medical Society Seventieth Annual Session, Des Moines May 11, 12, and 13, 1921

Wednesday, May 11, Morning

The Seventieth Annual Session of the Iowa State Medical Society was held in the Ball Room, Hotel Fort Des Moines, Des Moines, May 11, 12 and 13, 1921.

The Society was called to order at 9 o'clock by the President, Dr. Donald Macrae, Jr., Council Bluffs. Following invocation by Rabbi Eugene Mannheimer, Des Moines, addresses of welcome were made by Hon. C. W. Lyon, Corporation Counsel for the City of Des Moines, on behalf of the city, and by Dr. James W. Osborn, Des Moines, President Polk County Medical Society, for the profession. On behalf of the visiting members, Dr. John F. Herrick, Ottumwa, responded to the welcome extended.

ADDRESS OF WELCOME FOR THE PROFESSION

Dr. James W. Osborn

Mr. President, Members and Friends of the Iowa State Medical Society: It is a great honor, to be privileged to extend a welcome on behalf of the local profession, to the members of this Society on the occasion of the assemblage for its Seventieth Annual Session. I am particularly glad to extend this welcome because, I feel it so great an honor to be, myself, a member of this ancient and honorable profession.

Honorable, because always its members have been in the van of progress and active in the prevention, amelioration and cure of the various ills, to which the human race is heir. Its members have ever been men of character, public spirited, interested in all the various activities of the society in which they have lived; seeking knowledge, truth and the power to do good far above any material possessions. Ancient, because its history extends to the dawn of history and beyond into the mists of tradition.

In Hindoostan, Chaldee, Egypt and Greece medicine was an established art, as far back as the history of these countries extend and there were well established rules regarding its practice and of the ethics governing the conduct of physicians. In the Ayur Veda, the Hindoo medical writings of highest antiquity and authority and which date back to somewhere between the fourteenth and ninth centuries B. C. we read: "The physician should possess a healthy body; he should keep his nails and his beard short; his body pure; his clothes clean." It is also stated—that he should inform the relatives and friends of the seriousness of his patient's illness; that he should continue to visit his patients diligently, examine them carefully. "And when he has accomplished all that could be expected of him he is

entitled to the usual gifts for the performance of a good action."

It is a long jump from Hindoo medicine to that of Greece, and many interesting facts could be told, but we will pass them to mention Hippocrates, who was a contemporary of the historian Herodotus and a great correlator of medical knowledge. No doubt many of the works credited to him are not his, but certainly he taught us many things. A few may be mentioned. One aphorism, "The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants and externals co-operate." A few quotations from the oath—"I will give no deadly medicine to any one if asked nor suggest any such in counsel." "With purity and holiness I will pass my life and practice my art." "Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption." "Whatever, in connection with my professional practice, or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge."

In passing we may remember Herophilus who taught in the University of Alexandria about 300 B. C. and who made lasting contributions to the knowledge of anatomy, notably his description of the torcular Herophilli.

Galen who died about 201 A. D. may be briefly remembered as a voluminous writer of great learning whose teachings were accepted as authority during the period of darkness and superstition that descended upon the medical world about the time of his death and was not arrested until the time of the Renaissance.

Since that time progress has been so constant that to mention only by name all those we love to remember and honor would take too long. So we will only mention Ambroise Paré that great barber surgeon who in describing some of his work says, "I dressed his wounds and God healed him." This modesty of statement is one of the things we admire, and it is a not uncommon characteristic of the great men of our profession.

I am proud of our profession; because of its great history of achievement; because of its altruistic attitude; because of its humanitarian aims; because of its spirit of progress. When we remember that the members of this profession are made of the same clay that all men are made and then when we see their accomplishments, it would certainly seem that there must be something in the practice of medicine that is inspiring, elevating, exalting; that causes men to forget self, to undergo hardship, danger and privation that relief may be given to suffering humanity.

And so to the members of this Society who have dedicated their lives to the pursuit of knowledge in order that mankind may be benefited, I bring on the behalf of each and every one of the 235 members of the Polk County Medical Society a most cordial and hearty welcome to our city.

RESPONSE

Dr. John F. Herrick, Ottumwa

Honorable C. W. Lyon of the City of Des Moines and Dr. J. W. Osborn, President of the Polk County Medical Society: It is a pleasure to be called upon to respond to the most cordial and hearty welcome extended to us. We may fail in our ability to measure up to the estimate placed upon us by our hosts, and we may fail in our efforts to give expression to our pleasure in being received with such open hearts, but rest assured we are filled with gratitude and emotion.

Since many years, Des Moines has been the great rallying point of the profession of Iowa. Here we consider ourselves at home. There have been large, enthusiastic and profitable meetings in many of the splendid cities of the state, yet withall there was a sense of localization about the meeting which is absent in the capital city. The profession in Iowa represents a high average. Some large cities have men of national and international reputation that bring honor and credit to the profession but on the whole the people of our fair state have available a service that few others can enjoy. Therefore Mr. Lyon and physicians of Polk County we come to you with a sense of just pride in the worth and accomplishments of the profession of the state.

Our meetings are mainly scientific. We come together annually to review the work of the past year. Our primary object is to refresh our minds, exchange experiences, and learn from our associates any new advances or developments in the science or art of medicine that may have so far escaped our notice. The great and primary object is to be able to give our patrons the best that medicine has to offer.

"All work and no play makes Jack a dull boy" therefore we always find pleasure in some social relaxation during our meetings, old acquaintances are renewed, new friendships formed and the horizon of life extended. The profession and citizens of the cities in which we meet seems to vie with one another to make our visits pleasant. They have sent us home with renewed energy, and courage in our conflict with disease.

In conclusion, gentlemen, we assure you we are pleased to accept your hospitality so happily extended. We shall try to so conduct ourselves that you may not soon forget our visit, and we hope there may no regrets mingle with the memories.

Dr. Christian B. Luginbuhl, Des Moines, read a paper on "Colitis." Discussed by Drs. Eli Grimes, Des Moines; G. B. Crow, Burlington; W. L. Bierring, Des Moines, and H. J. Prentiss, Iowa City.

Dr. Albert B. Deering, Boone, read a paper on "An Unusual Indication for Caesarean Section." Discussed by Drs. John F. Herrick, Ottumwa; Charles H. Magee, Burlington, and J. S. Weber, Davenport.

On behalf of the Society, Dr. Frank M. Fuller, Keokuk, presented to President Macrae a gavel with

which to control the sessions of the Society, stating that not only would it serve as an emblem of authority during this meeting, but that in the years to come it would remain a token of the very high personal regard and esteem in which its recipient is held by the members of the Society and of gratitude for the services rendered during the past year.

Dr. Edward F. Beeh, Fort Dodge, read a paper on "The Acute Abdomen from a Surgical Standpoint." Discussed by Drs. Charles H. Magee, Thomas Byrnes, Woodward; E. C. Junger, Soldier; M. J. Kenefick, Algona, and F. R. Holbrook, Des Moines.

Dr. Robert C. Crumpton, Webster City, Chairman of the Section on Medicine, read a paper on "Vitamines."

On motion by Dr. Charles H. Magee, carried, in the unavoidable absence of Dr. Frederick V. Hibbs, Carroll, his paper on "Pyelitis" was read by Dr. O. C. Morrison, Carroll.

Discussed by Drs. Frank M. Fuller, Keokuk, and J. E. Dyson, Des Moines.

Wednesday, May 11, Afternoon

The meeting was called to order at 1:30 o'clock by the President.

Dr. M. Nelson Voldeng, Woodward, gave a preliminary report on "Luminal in the Treatment of Epilepsy." Discussed by Drs. Frank A. Ely, Des Moines; Thos. Byrnes, Woodward; John F. Herrick, and Walter E. Scott, Adel, Dr. Voldeng closing the discussion.

Papers comprising a symposium on "Focal Infection" were read, as follows:

"Otologic and Rhinologic Infections," Dr. Lee Wallace Dean, Iowa City.

"Focal Infection of the Mouth, Teeth, Tonsils and Maxillary Bones in Relation to Systemic Disease," Dr. Calvin W. Harned, Des Moines.

"Gastro-Intestinal Infections," Dr. Milton B. Galloway, Webster City.

"Genito-Urinary Infections," Dr. John McAtee, Council Bluffs.

At this point the President retired to open the meeting of the House of Delegates, Vice-President Osborn presiding during the remainder of the session.

The papers of the Symposium were discussed by Drs. Clarence E. Van Epps, Iowa City; Walter L. Bierring, Des Moines; Arthur Steindler, Iowa City; Frank M. Fuller, Keokuk, and by Drs. Dean, Harned and McAtee in closing the discussion.

Wednesday, May 11, Evening

At 6:30 the members and their guests assembled for the annual banquet, during which a musical program was furnished. Immediately following the dinner appropriate speeches were made by various members, and a notable address was given by Judge F. M. Faville, Des Moines, Judge of the Supreme Court of Iowa.

Thursday, May 12, Morning

Meeting was called to order by Vice-President Campbell P. Howard, Iowa City, at 9:15 o'clock.

Dr. Peter A. Bendixen, Davenport, read a paper on "Fracture of the Lower End of the Radius." Discussed by Drs. Alva P. Stoner, Des Moines; John E. Brinkman, Waterloo; Murdoch Bannister, Ottumwa; J. T. Gaumer, Fairfield; Charles J. Rowan, Iowa City; F. R. Holbrook, Des Moines, and by Dr. Bendixen, in closing.

The House of Delegates having adjourned, the President took the chair and presided during the remainder of the session.

Dr. Charles Ryan, Des Moines, read a paper on "Combined Anesthesia." Discussed by Drs. C. R. Armentrout, Keokuk; P. B. McLaughlin, Sioux City; John E. Brinkman, and by Dr. Ryan in closing the discussion.

Dr. William H. Rohlf, Waverly, gave the Oration in Surgery, his subject being, "Do We Progress?"

Dr. Jeannette F. Throckmorton, Chariton, read a paper on "The Educational Phase of Public Health." Discussed by Drs. Paul E. Gardner, New Hampton, and Frank M. Fuller, the essayist closing the discussion.

Dr. Mary L. Tinley, Council Bluffs, read a paper on "The Relation of Hospital Standardization to Obstetrics." (No discussion.)

Thursday, May 12, Afternoon

Meeting was called to order by the President at 1:30 o'clock.

The Oration in Medicine was given by Dr. Campbell P. Howard, Iowa City.

Dr. Wilton W. McCarthy, Des Moines, gave his Address as Chairman of the Section on Surgery.

Dr. Charles H. Frazier, Philadelphia, gave the Address on Surgery, his subject being, "The Achievements and Limitations of Neurological Surgery."

It was moved by Dr. Tom B. Throckmorton that a rising vote of thanks be tendered Dr. Frazier for the most interesting, scientific and instructive address which he has given, and by this act to show him that we appreciate his presence here today.

Motion seconded, and unanimously carried by rising vote.

Dr. Charles J. Rowan, Iowa City, read a paper on "The Causes of Failure of Operations for Chronic Appendicitis." Discussed by Drs. Oliver J. Fay, Des Moines; S. A. Spilman, Ottumwa; John F. Herrick; Donald Macrae, Jr., and T. L. Nelson, Ottumwa, Dr. Rowan closing the discussion.

Dr. Philip B. McLaughlin, Sioux City, read a paper on "The Present Status of the Treatment of Pernicious Anemia."

Dr. Frank J. Rohner, Iowa City, read a paper on "Pernicious Anemia: Sub-Acute Combined Sclerosis."

These two papers were jointly discussed by Drs. Walter L. Bierring; W. E. Sanders, Des Moines, and by Drs. McLaughlin and Rohner in closing.

Thursday, May 12, Evening

Meeting was called to order by Vice-President Dr. C. P. Howard at 8:00 o'clock.

Dr. Donald Macrae, Jr., read the President's Address, at the close of which the acting chairman appointed as a committee to receive the President's Address and to refer it for publication, the following members: Paul E. Gardner, M. J. Kenefick, and A. G. Shellito.

Dr. W. A. Rohlf, Waverly, introduced and moved the adoption of the following resolution:

See transactions House of Delegates page 283.

Motion to adopt the resolution was seconded, and unanimously carried.

The Secretary read the following communication:

"Fort Madison, Iowa, May 10, 1921.

"My Dear Mr. Secretary:

"Express to my beloved State Medical Society and its members my regrets of not being present this year. And especially express my best wishes to my friend, Dr. Donald Macrae, Jr., the President, my best hopes for a successful session that will reflect credit and renown upon his administration, and that the honor will give him happiness that will remain a bright spot in his life as it had for me.

"Ever your friend, my dear colleagues, C. F. Wahrer."

It was moved by Dr. John F. Herrick that greetings be sent to Brother Wahrer, to Dr. Hornibrook of Cherokee and to Dr. W. L. Allen of Davenport. Motion seconded. Carried.

Dr. Edward Jackson, Denver, Colorado, gave an address on "Diseases of the Blood-Vessels as Seen in the Eye."

Upon motion by Dr. J. T. Priestley, Des Moines, which was duly seconded, a rising vote of thanks was unanimously extended to Dr. Jackson for his scholarly and interesting address.

Buffet luncheon and smoker followed the scientific program.

Friday, May 13, Morning

Meeting was called to order by Vice-President Howard at 9 o'clock.

Dr. George E. Decker, Davenport, read a paper on "Suprapubic Prostatectomy: Technic and After-Results." Discussed by Drs. John C. Rockafellow, Des Moines; A. G. Fleischman, Des Moines; F. B. Dorsey, Keokuk, and T. L. Nelson, Ottumwa, Dr. Decker closing the discussion.

Dr. John C. Rockafellow, Des Moines, read a paper on "Treatment of Carcinoma of the Cervix Uteri." Discussed by Drs. Wilton W. McCarthy; M. J. Kenefick; Thos. A. Burcham, Des Moines; Walter L. Bierring, and C. E. Ruth, Des Moines, Dr. Rockafellow closing the discussion.

Dr. Willis S. Lemon, Rochester, Minnesota, gave the address in Medicine, his subject being, "Clinical Study of Fifty Consecutive Cases of Pneumothorax."

In accordance with suggestion of the chairman

that a vote of thanks be extended to Dr. Lemon for his highly scientific and comprehensive summary, Dr. Walter L. Bierring moved that a rising vote of thanks be extended to Dr. Lemon for his interesting and instructive address. Motion seconded. Carried by rising vote and applause.

Dr. Bierring: "I know you are in a hurry to finish this program, but I think we should pause to pay tribute to the Nestor of the profession in Iowa. Dr. Field of Des Moines, who is still young with his ninety years, was giving the profession scientific thoughts and using the microscope in Medicine long before most of us were born. I suggest that Dr. Field be brought to the platform so that we may have opportunity to see the oldest living practitioner of Iowa."

Dr. Field was escorted to the platform and received an ovation, the members rising in a body to extend their greetings. He remained until the session closed, evincing keen interest in the program and discussions.

Dr. Coral R. Armentrout, Keokuk, read a paper on "Ectopic Gestation as a Vital Subject to the Patient and to the Practitioner." Discussed by Drs. H. W. Barbour, Mason City; E. C. Junger, Soldier; B. D. Atchley, Shelby, and by the essayist, in closing the discussion.

At this point the President, who had been in attendance at the meeting of the House of Delegates, entered the room, and was called by Vice-President Howard to take his place as presiding officer.

Dr. Paul E. Gardner presented report of committee on the President's Address, as follows:

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS

"We congratulate the Society upon the able and timely address of our worthy President, on this our seventieth annual session.

"We especially commend the manner in which the address deals with the relations of the general practitioner to the city specialist and the recommendation for the establishment of the smaller community hospitals.

"We give hearty endorsement to the resolutions submitted at the close of the address by Dr. Rohlf of Bremer County as representing the true spirit of all progressive members of our profession.

Respectfully submitted,

Paul E. Gardner, Chairman,

A. G. Shellito,

M. J. Kenefick,

Committee."

Upon motion, the report of the committee was adopted.

Report of the Transactions of the House of Delegates was then presented by the Secretary. Upon motion, unanimously carried, the report was adopted.

SUMMARY OF THE PROCEEDINGS OF THE HOUSE OF DELEGATES

The first meeting was held May 11, and was called to order by President Macrae at 3:30 p. m. Response to roll call included thirteen officers and fifty-three delegates. The reports from the Secretary, Treasurer, Board of Trustees, and the Medico-legal, Public Policy and Legislation, and the Eugenics Committees were presented, and the usual disposition of them made. At this meeting a motion requesting County Medical Societies to consider the question of securing cadavers for use in the Anatomical Department of the State University and notifying the members of the legality of sending to the State University Medical School certain unclaimed dead, was favorably acted upon.

The second meeting, Thursday morning, convened at 8:15 with a total of forty-eight present—thirteen officers and thirty-five delegates. Reports from the Council, Committees on Constitution and By-laws, Health and Public Instruction and Publication were given, and the usual disposition of them made. At this meeting, the Publication Committee and the Board of Trustees were empowered to increase the size of the Journal to meet the needs of the Society.

The third meeting, Friday morning, was called to order at 8:10, in the absence of President Macrae, by H. C. Eschbach, who had been chosen president pro tem. Eleven officers and forty-one delegates responded to the roll call. President Macrae then took the chair. The minutes of the first and second meetings were read and approved. The report of the Nominating Committee being the first order of business, the report was given by Dr. J. F. Herrick, Chairman of the Committee, following which officers and committee members were elected for the ensuing year. (See election of officers, Transactions House of Delegates, page ...) .

Des Moines was named as the meeting place for the next annual session—the seventy-first—and the date to be May 10, 11, 12, 1922.

Total registration, 671.

The Resolution which was presented to, and unanimously acted upon at the General Session, Thursday evening, May 12, was favorably acted upon by the House of Delegates Friday morning.

A Resolution from the American Legion requesting that the "Poppy of Flanders Field" be made the memorial flower to be worn on Memorial Day, was presented and adopted.

The retiring President said: "Gentlemen, I take great pleasure in introducing to you, although it is hardly necessary, our esteemed friend, Dr. Alanson M. Pond, Dubuque, Iowa, the President-elect."

President Pond: "Members of the Iowa State Medical Society, ladies and gentlemen: There are moments in one's life when words seem so hollow, so useless; there are times when the sentiments that we feel and that call for expression seem too big for

language. I think the essence of the whole situation, so far as any man who is elected president of the Iowa State Medical Society is concerned, can be very concretely expressed in the statement that it is nice to have friends. I am very glad indeed to have been able to follow such an illustrious predecessor as my friend Donald Macrae. It shall be my endeavor to carry on, in every possible manner, the plan that he outlined to us last night. I know, by the support you have always given your presiding officer, just what to expect from you as members.

"I cannot say what I want to say—I do not know how to say it—I haven't words to say it; you must take my intent for the deed."

It was moved by Dr. W. A. Rohlf that a vote of thanks be extended to the members of the profession of Des Moines and to the Polk County Medical Society for the great work that they have done in putting this meeting across, and also to the management of Hotel Fort Des Moines for the many courtesies extended. Motion seconded.

Dr. Charles Ryan moved as an amendment to the motion that the captain of the team of workers, Dr. Tom B. Throckmorton, be especially cited. The amendment was accepted by Dr. Rohlf. The motion as amended was unanimously carried.

The President announced that at some future time he would make recommendations for the membership of the committee to consider the resolutions adopted by the House of Delegates, stating, however, that it was his intention to appoint on the committee Dr. Donald Macrae.

The Society adjourned, to meet in 1922 at Hotel Fort Des Moines, Des Moines, Iowa.

Tom B. Throckmorton,
Secretary.

Transactions of the House of Delegates Iowa State Medical Society

Seventieth Annual Session, Des Moines,
May 11, 12, 13, 1921

First Meeting, Wednesday, May 11

The House of Delegates met in Room 322, Hotel Fort Des Moines, and was called to order at 3:30 p. m. by the president, Dr. Donald Macrae, Jr., Council Bluffs.

Roll call showed the presence of thirteen officers and forty-nine delegates, a total of sixty-two. A quorum being present, the House proceeded to business.

REPORT OF THE SECRETARY

The secretary, Dr. Tom B. Throckmorton, read his annual report, which upon motion duly seconded and carried, was accepted and referred to the finance committee. The report follows:

To the Members of the House of Delegates of the Iowa State Medical Society:

The following report for the year 1920-1921 is respectfully submitted:

In bringing before the House of Delegates, this, my fifth annual report, I am peculiarly conscious of the fact that the work of the Secretary's office during the past year could not have been accomplished without the united support of the officers and members of this Society. Like the proverbial wine that improves with age, so has the work of the state organization improved, moving more smoothly and harmoniously as the years come and go, until, in the retrospect, it seems as if not even a ruffle has appeared upon the surface of tranquility to indicate anything but a propitious and favorable year has just elapsed in the history of the Iowa State Medical Society.

With the world still attempting to adjust itself from the effects of the past war, with Bolshevism still lurking in our midst, with social and civil discontentment all around us, nevertheless, with all these and still other added difficulties too numerous to mention, the medical profession of this state has valiantly pushed forward and onward with the one goal ever in mind, "Service to Suffering Humanity." As a profession we have just reason to feel proud of our accomplishments which have been possible only through such an organization as the one which you now represent as its legislative body: an organization made possible only by the whole-hearted support which has been accorded to me, as Secretary, and to the other officers, to all of whom has been entrusted the welfare and safe-keeping of this splendid Society.

There is but little more to add to this report for, from every point of view, it seems as if the year just closed has been the best of any yet enjoyed by this organization. The membership of the Society compares very favorable with that of former years. In 1917, there was a total of 2,253 members; in 1918, 2,185 members; in 1919, 2,205 members; and the past year 2,340 members. As far as I am able to determine, the enrollment of the past year is the largest ever enjoyed in the history of organized medicine in Iowa. To date, dues have been received from 2,160 members, thus showing a substantial increase in membership for the corresponding period of time last year, and indicating, in all probability, a record breaking enrollment for the year 1920-1921.

In closing allow me to express my thanks of appreciation to the Secretaries of various Component County Medical Societies for the almost universal co-operation on their part in helping this office to keep intact the membership of this Society; and for the help and support accorded me by the Council and Trustees, I am deeply grateful.

Other matters in which the office of Secretary has been active, are reported to the House of Delegates from other sources.

FINANCIAL STATEMENT

For the year May 1, 1920 to April 30, 1921.

Receipts

Dues, 1918.....	\$ 5.00	
Dues, 1919.....	10.00	
Dues, 1920.....	1,490.00	
Dues, 1921.....	10,412.00	
Advertising	7,048.41	
Reprints	303.00	
Subscriptions—non-members	67.35	
Sales	40.29	
Arrangement Committee—1920	230.00	
Honorarium—A. M. A. Advertising Bureau	181.80	\$19,787.85

Disbursements

Commission to Advertising Bureau and Discount.....	\$ 848.99	
Refund Hardin County Medical Society—Error in check.....	5.00	
Dr. Thos. F. Duhigg, Treasurer	\$18,933.86	\$19,787.85

Orders have been issued during the year as follows:

No.	Amount
1038 Salary, office assistant, April.....	\$100.00
1039 McNamara & Kenworthy, office supplies, Sec'y and Treas.....	6.00
1040 Iowa Press Clipping Bureau, April.....	5.00
1041 Bankers Prtg. Co., Council Reports; bill heads, Journal; membership card envelopes	11.95
1042 Pilgrim Specialty Co., Malden, Massachusetts, 1920 badges.....	50.61
1043 Federal Prtg. Co., stationery, (Journal and Society).....	19.95
1044 Void	
1045 Void	
1046 Dr. Tom B. Throckmorton, Sec'y salary 2-15 to 5-15, 1920; mailing May issue and postage.....	124.25
1047 Dr. W. L. Allen, Davenport, President's expense 1919-20.....	68.20
1048 J. H. Welch Prtg. Co., April Journal, reprints and programs.....	766.15
1049 Dutcher & Davis, attys., medico-legal Jan., Feb., March, 1920.....	446.80
1050 Thos. F. Duhigg, Treasurer, salary and expense	206.37
1051 Plumb Jewelry Co., gavels and engraving for ex-Presidents.....	155.46
1052 Tom B. Throckmorton, Sec'y, salary office assistant, May.....	100.00
1053 J. H. Welch Prtg. Co., May Journal.....	401.38
1054 Remley & Remley, attorneys, Anamosa, medico-legal.....	75.00
1055 Nesbit & Johnson, attys., Des Moines medico-legal	50.00

No.	Amount
1056 Iowa Press Clipping Bureau, Des Moines, May and June.....	10.00
1057 J. H. Welch Prtg. Co., June Journal and reprints.....	487.45
1058 D. S. Fairchild, Editor, salary, April, May and June, secretary's salary three months and postage.....	408.50
1059 Miss Adelaide Folsom, Ripon, Wisconsin, reporting 1920 Session.....	150.00
1060 Tom B. Throckmorton, Sec'y, salary office assistant, June.....	100.00
1061 Tom B. Throckmorton, Sec'y, expenses 1920 Session, rent meeting place House of Delegates, reporting sessions House of Delegates, registration, general assistant, signs, incidentals.....	86.55
1062 Central Eng. Co., zinc etching, August issue	3.29
1063 Tom B. Throckmorton, Sec'y, salary, office assistant, July.....	100.00
1064 Dahlberg Duplicating Co., resolution on fees, letters to County Secretaries and to delinquents.....	14.00
1065 Dutcher & Davis, attys., medico-legal, April, May and June.....	697.40
1066 Iowa Press Clipping Bureau, July and August	10.00
1067 Upham Bros., bonds, Secretary and Treasurer, State Society.....	62.50
1068 Frankel Carbon and Ribbon Co., box carbon paper.....	3.50
1069 Koch Bros., cash book Sec'y's office.....	5.70
1070 Central Engraving Co., half tones, October Journal.....	11.97
1071 J. H. Welch Prtg. Co., August Journal, reprints, July and August.....	550.05
1072 Tom B. Throckmorton, Sec'y, salary office assistant, August.....	100.00
1073 Tom B. Throckmorton, Sec'y, salary 5-15 to 8-15, mailing Journal for three months; rent and office phone for four months; postage, etc.....	232.04
1074 W. B. Small, expense attending trustees meeting 8-31, 1920.....	7.40
1075 T. E. Powers, expense attending trustee's meeting 8-31, 1920.....	10.95
1076 J. W. Harrison, expense attending legislative committee meeting.....	4.50
1077 J. W. Cokenower, expense Trustees meeting, stamps, stationery, stenographer, Trustees and Legislative Committee, June, July and August.....	23.00
1078 Thos. F. Duhigg, deficit arrangement committee, 1920 Session.....	27.30
1079 Bankers Prtg. Co., stationery Council; reprints medico-legal.....	48.88
1080 Central Engraving Co., half tones, September issue.....	18.80
1081 Ida B. Calder, Des Moines, work in State Society office.....	50.00

No.	Amount	No.	Amount
1082	Tom B. Throckmorton, Sec'y, office assistant salary, September.....	1110	Bankers Prtg. Co., stationery Editor, President and Journal.....
1083	J. H. Welch Prtg. Co., July Journal and reprints	1111	McNamara Office Supply Co., supplies Secretary's office.....
1084	Iowa Press Clipping Bupreau, Sept.....	1112	Davidson Bros., carpet and door mat State Society office.....
1085	D. S. Fairchild, Editor, salary, July, August and September; stenographer salary; postage, Journal and medico-legal	1113	Iowa Press Clipping Bureau, January....
1086	Central Engraving Co., zinc etching used in April, 1921.....	1114	J. H. Welch Prtg. Co., January and February Journals, reprints.....
1087	J. H. Welch Prtg. Co., printing September Journal, reprints.....	1115	Dutcher & Davis, attorneys, Iowa City, July to December, 1920, inclusive.....
1088	Tom B. Throckmorton, salary office assistant, October.....	1116	Tom B. Throckmorton, Sec'y salary 11-15 to 2-15, mailing Journals, rent, phone, postage for December, January and February.....
1089	Koch Bros., Des Moines, 1921 membership record book.....	1117	J. W. Cokenower, expense Legislative Committee, postage and expense trustees meeting, March 1.....
1090	Federal Prtg. Co., stationery State Society and Journal.....	1118	W. B. Small, expense attending trustees meeting March 1.....
1091	Bankers Prtg. Co., 1921 membership receipts and reprint orders.....	1119	Tom B. Throckmorton, Sec'y, salary, office assistant, March.....
1092	Iowa Press Clipping Bureau, October and November.....	1120	Central Engraving Co., zinc etching, May issue.....
1093	Dahlberg Duplicating Co., letters to County Secretaries.....	1121	D. S. Fairchild, Editor, salary, January, February, March; stenographer, three months, postage, Journal and medico-legal
1094	J. H. Welch Prtg. Co., October Journal and reprints.....	1122	Iowa Press Clipping Bureau, February and March.....
1095	J. H. Welch Prtg. Co., November Journal and balance July (\$78.25).....	1123	J. H. Welch Prtg. Co., March Journal and reprints.....
1096	Tom B. Throckmorton, Sec'y, mailing Journal September and October; rent and phone, Sept., Oct. and Nov., postage; salary 8-15, 1920 to 11-15, 1920.....	1124	Dr. Lewis Schooler, services medico-legal committee and expense 1919-1920
1097	W. B. Small, Waterloo, expense attending trustees meeting November.....	1125	Dr. J. W. Cokenower, legislative expense and postage, March 25 to May 14, 1920
1098	T. E. Powers, Clarinda, expense attending trustees meeting, November.....	1126	Tom B. Throckmorton, Sec'y, mailing Journal; rent and phone; postage and telegrams March and April.....
1099	J. W. Cokenower, expense trustees meeting, stenographer, Sept., Oct. and November		
1100	Tom B. Throckmorton, Sec'y, salary office assistant November.....		
1101	Tom B. Throckmorton, Sec'y, salary office assistant, December.....		
1102	Central Engraving Co., zinc etching, March issue.....		
1103	Dahlberg Dupl. Co., questionnaires for Council		
1104	American Medical Association, 1921 membership cards.....		
1105	D. S. Fairchild, Editor, salary, October, November, December, stenographer salary, three months, postage, Journal and medico-legal.....		
1106	Iowa Press Clipping Bureau, December		
1107	J. H. Welch Prtg. Co., December Journal, 1921, Journal wrappers.....		
1108	Tom B. Throckmorton, Sec'y, salary office assistant January.....		
1109	Tom B. Throckmorton, salary office assistant, February.....		

Respectfully submitted,
Tom B. Throckmorton,
Secretary.

JOURNAL STATEMENT

January 1, 1920 to December 31, 1920

Income	
Advertising	\$6,430.45
Reprints	382.50
Subscriptions—non-members	43.50
Sales	18.01
Honorarium from A. M. A. Adv. Bureau	181.80
Subscriptions 1918 and 1919 members	4.00
Subscriptions 2340, 1920 members	2,340.00
Interest on 1920 Journal surplus....	17.92
	<u>\$9,418.18</u>

Expense**Printing—**

3-64 page Journals.....	\$1,215.38	
5-68 page Journals.....	2,090.75	
2-72 page Journals.....	958.95	
1-88 page journal	668.85	
1-92 page Journal	662.55	\$5,596.48

Engravings	\$ 109.54	
Journal wrappers.....	78.00	
Reprints	338.40	
Commission and discount.....	830.63	
Editor's salary.....	1,500.00	
Editor's secretary.....	60.00	
Business office assistant's salary	600.00	
Mailing Journals and city delivery	150.74	
Rent and telephone.....	45.95	
Postage	48.00	
Stationery and office supplies.....	55.10	
News service.....	60.00	
Editor's sundry expense & postage	9.65	
Advertising contracts.....	12.80	

\$9,495.29

Deficit 77.11

\$9,418.18

Tom B. Throckmorton,
Business Manager.

In the absence of the Treasurer, the Report of the Board of Trustees was called. Dr. J. W. Cokenower, Chairman of the Board of Trustees, read the annual report as follows:

REPORT OF THE BOARD OF TRUSTEES

The splendid report of the Secretary and Treasurer are self explanatory and show our Society's finances in good condition.

Many of the State Societies have been compelled to increase their annual dues in order to make ends meet, but the Iowa State Medical Society has not found such action necessary.

Although during the war, and now, the printing of our Journal and other printed matter necessary for the offices of our Society cost about double pre-war prices, the last fiscal year ending April 30, 1921, our total income including approximately accrued interest on bonds was \$19,892.65 and our total expenses were \$14,273.10 which makes a net gain for the year of \$5,619.55.

The main factors which have contributed to this good report are our efficient and worthy Editor, our Secretary and Business Manager through advertisements, and our reliable Treasurer; and also our Defense Committee assisted materially in rendering valuable service in lessening the cost and number of mal-practice and damage suits.

J. W. Cokenower, Chrm.,
T. E. Powers,
W. B. Small,

Committee.

Upon motion, duly seconded and carried, the report was accepted.

REPORT OF TREASURER

Dr. Thos. F. Duhigg, Treasurer, presented his annual report, and moved that it be received and referred to the Finance Committee. Seconded and carried.

The report follows:

House of Delegates,
Iowa State Medical Society.
Gentlemen:

In presenting the report on the financial condition of the Society for this year I wish to congratulate you on the commendable economy which has been observed in the administration of its business which is reflected more eloquently by the item showing the balance on hand, \$32,225.44, than by any other comment which I can make.

The medico-legal expense continues low in proportion to the amount and character of the work performed. The receipts from advertising have been particularly gratifying.

When I received the Treasurer's books of the Society six years ago, its assets were about \$2,500. They doubled the first year making a balance of approximately \$5,000 and since then have increased consistently during the past five years at the rate of approximately \$5,400 per year.

I was always inclined to the view that the finances of the Society should be upon a substantial basis which to my mind was represented by a sum of \$25,000 or better. The assets of the Society are now safely above \$30,000. If the receipts and expenditures continue at the same ratio that they have for the past five years, which seems a reasonable assumption, it would be safe to reduce the state dues \$2 per year per capita. If continued at the same amount it will create a fund which might be used to enlarge the Journal or for any other purpose which the Society cares to sanction.

Balance Sheet

Balance on hand 1920.....	\$27,463.88
Received from Secretary.....	18,933.86
Int. on \$10,000 Liberty Bonds	425.00
Interest on deposits.....	333.79

Total receipts to Apr. 30, 1921 \$47,156.53

Expended as per orders herewith attached.....	\$14,273.10
Expended per Order No. 1024 issued during previous year (February 24, 1920).....	250.00
Expended per Order No. 1035 dated April 10, 1920 but not cashed until after May 1, 1920	407.99

Total expended.....\$14,931.09

Assets		No.	1920	Amount	
Liberty Bonds.....	\$10,000.00	446	6-21 J. H. Welch Prtg. Co., May Journals	401.38	
Liberty Bonds \$10,000 purchased at.....	8,600.00	447	7- 8 Remly & Remly, Davenport, attorney fees, Gilbreth, admrx. vs. Dr. J. M. Young.....	75.00	
Trade Acceptance Paper (Morris Plan Bank).....	2,002.96	448	7- 8 Nesbit and Johnson, Des Moines, attorney fees, Carson case	50.00	
On time deposit People's Savings Bank.....	7,965.47	449	Void.		
On deposit subject to check.....	3,657.01	450	7-31 Iowa Press Clipping Bureau, News Service, May and June....	10.00	
Total on hand April 30, 1921	\$32,225.44	451	7-31 J. H. Welch Prtg. Co., June Journals, May and June reprints	487.45	
Grand Total.....	\$47,156.53	452	7-31 D. S. Fairchild, Sr., salary as Editor, stamps, stenographer....	408.50	
Des Moines, Iowa, May 9, 1921.		453	7-31 Adelaide Folsom, reporting 69th Annual Session.....	150.00	
To Whom It May Concern:		454	7-31 Tom B. Throckmorton, salary, office assistant, June.....	100.00	
This will certify that there was on deposit at this bank at the close of business April 30, 1921, to the credit of the Iowa State Medical Society as follows:		455	7-31 Tom B. Throckmorton, expenses 69th Annual Session.....	86.55	
On checking account, \$3,657.01 (this amount includes \$212.50, interest on Liberty Bonds deposited May 5th and a deposit of \$480 on May 9).		456	7-31 Central Engraving Co., zinc etching for Journal.....	3.29	
On savings account, \$7,965.47 which includes interest on savings account to April 30, 1921.		457	Void.		
Yours truly,		458	8-27 Tom B. Throckmorton, salary, office assistant, July.....	100.00	
E. A. Slininger,		459	9- 7 Bankers Prtg. Co., stationery, Secretary's office	48.88	
Cashier.		460	9- 7 Thos. F. Duhigg, deficit in expense, Arrangement Committee	27.30	
Expenditures of the Iowa State Medical Society, May 1, 1920 to April 30, 1921. Checks were issued as follows:		461	9- 7 J. W. Cokenower, stamps, stationery, etc.	23.00	
No.	1920	Amount	462	9- 7 J. W. Harrison, expense attending Legislation Committee	4.50
433	5- 8 T. B. Throckmorton, salary office assistant	\$ 100.00	463	9- 7 T. E. Powers, expense attending Trustees Meeting.....	10.95
434	6- 4 Iowa Press Clipping Bureau, News Service, April.....	5.00	464	9- 7 W. B. Small, expense attending Trustees Meeting	7.40
435	6- 4 McNamara & Kenworthy, sundry office supplies.....	6.00	465	9- 7 Tom B. Throckmorton, rent and office expenses.....	232.04
436	6- 4 Bankers Prtg. Co., bill heads, reports, membership	11.95	466	9- 7 Tom B. Throckmorton, salary office assistant, August.....	100.00
437	6- 4 Pilgrim Specialty Co., badges, 1920 Session	50.61	467	9- 7 J. H. Welch Prtg. Co., August Journals, August and July reprints	550.05
438	6- 4 Federal Prtg. Co., stationery, Secretary office, Journal stationery	19.95	468	9- 7 Central Engraving Co., half tones, Drs. Osborn and Reynolds	11.97
439	6- 4 Plumb Jewelry Store, gavels, Ex-Presidents and engraving	155.46	469	9- 7 Koch Bros. cash book for Secretary's office	5.70
440	6- 4 Thos. F. Duhigg, salary as Treasurer, 1919-1920, expense Hotel Committee, 1920.....	206.37	470	9- 7 Frankel Carbon & Ribbon Co., carbon paper	3.50
441	6- 4 Dutcher & Davis, January, February, March, 1920.....	446.80	471	9- 7 Upham Brothers, bonds, Secretary and Treasurer.....	62.50
442	6- 4 J. H. Welch Prtg. Co., April Journals, March, April reprints, programs	766.15	472	9- 7 Iowa Press Clipping Bureau, News Service, July and August	10.00
443	6- 4 Dr. Wm. L. Allen, expense, 3 trips to Des Moines, stationery	68.20	473	9- 7 Dutcher & Davis, medico-legal bill, April, May and June.....	697.40
444	6- 4 T. B. Throckmorton, salary, 2-15 to 5-15, 1920, postage.....	124.25			
445	6- 6 T. B. Throckmorton, salary, office assistant, May, 1920.....	100.00			

No.	1920	Amount	No.	1921	Amount
474	9- 7 Dahlberg Duplicating Co., form letters, copies resolution, fee	14.00	504	1-20 J. H. Welch Prtg. Co., December Journals and wrappers.....	508.50
475	9-15 Mrs. Edwin Burchett, attorney fees, Handlin vs. Burchett.....	250.00	505	1-20 Iowa Press Clipping Co., December News Service.....	5.00
476	9-20 Central Engraving Co., half tones, September issue.....	18.80	506	1-31 Tom B. Throckmorton, salary, office assistant, January.....	100.00
477	9-20 Ida B. Calder, work in Secretary and Journal office.....	50.00	507	3- 5 J. W. Cokenower, expenses Trustees Meeting	19.62
478	10- 2 Tom B. Throckmorton, salary, office assistant, September.....	100.00	508	3- 5 W. B. Small, expenses attending Trustees Meeting.....	11.26
479	10- 2 J. H. Welch Prtg. Co., July Journals	589.00	509	3- 5 Tom B. Throckmorton, salary, rent and office expense.....	264.76
480	10-20 D. S. Fairchild, salary, July to October and postage.....	410.04	510	3- 5 J. H. Welch Prtg. Co., January and February Journals.....	1,183.60
481	10-20 Iowa Press Clipping Co., September News Service.....	5.00	511	3- 5 Iowa Press Clipping Bureau, January News Service.....	5.00
482	10-20 Central Engraving Co., zinc etchings, Dr. Ruth's paper.....	24.35	512	3- 5 S. Davidson & Bros., carpet for State Society room.....	83.37
483	10-20 J. H. Welch Prtg. Co., September Journals and reprints.....	434.35	513	3- 5 McNamara Office Supplies, supplies for Secretary office.....	3.65
484	Void.	.	514	3- 5 Bankers Prtg. Co., bill heads and letter heads.....	19.80
485	11-10 Tom B. Throckmorton, salary, office assistant, October.....	100.00	515	3- 5 Tom B. Throckmorton, salary, office assistant, February.....	100.00
486	Void.	.	516	3- 5 Dutcher & Davis, for July, August, September, October, November and December.....	1,191.45
487	11-27 Koch Bros., record book, 1921	3.10	517	Void.	
488	11-27 Federal Prtg. Co., stationery, State Society and Journal.....	55.75	518	Void.	
489	11-27 Bankers Prtg. Co., membership receipts and reprints.....	24.40	519	4- 7 Tom B. Throckmorton, salary, office assistant, March.....	100.00
490	11-27 Iowa Press Clipping Bureau, Oct. and Nov. News Service....	10.00	520	4- 9 Central Engraving Co., zinc etchings	2.25
491	11-27 J. H. Welch Prtg. Co., October Journals	517.45	521	4- 9 Iowa Press Clipping Bureau, News Service, Feb. and March	10.00
492	11-27 J. H. Welch Prtg. Co., Nov. Journals, balance July.....	494.75	522	4- 9 J. H. Welch Prtg. Co., March Journals	575.00
493	11-27 Tom B. Throckmorton, salary, rent and office expense.....	217.25	523	4- 9 Dr. Schooler, expenses Medico-Legal Committee, 1919-1920.....	50.00
494	11-27 W. B. Small, expense attending Trustees Meeting	9.10	524	4- 9 J. W. Cokenower, expenses, Chairman Board of Trustees and Legislative Committee.....	51.00
495	11-27 T. E. Powers, expense attending Trustees Meeting.....	12.17	525	4- 9 D. S. Fairchild, salary, January, February, March, stenographer and postage	411.26
496	11-27 J. W. Cokenower, Trustees expense and stenographer.....	33.40	526	Void.	
497	11-27 Dahlberg Duplicating Co., letters to County Secretaries.....	4.87	527	4-15 Tom B. Throckmorton, rent, telephone, stamps and office....	83.47
498	12- 4 Tom B. Throckmorton, salary, office assistant, November.....	100.00			
No.	1921	Amount			
499	1- 4 Tom B. Throckmorton, salary, office assistant, December.....	100.00		Total expended.....	\$14,523.10
500	1-10 Central Engraving Co., four zinc etchings	9.00		Respectfully submitted,	
501	1-10 Dahlberg Duplicating Co., 600 mimeo questionnaires	6.17		Thos. F. Duhigg,	
502	1-10 American Medical Ass'n, 1921 membership cards	13.00		Treasurer.	
503	1-10 D. S. Fairchild, salary, October to January stenographer and postage	410.06			

REPORT OF MEDICO-LEGAL COMMITTEE

The report of the Medico-Legal Committee was given by the Chairman, Dr. D. S. Fairchild, Sr. No objections being made, the President announced that the report would be adopted as read.

The report follows:

Bills for Attorney's Fees for Medical Defense

From April to July, 1920.....	\$ 697.40
From July to October, 1920.....	439.60
From October to January, 1921.....	756.85
From January to April, 1921.....	483.18

Total	\$2,377.03
Bills for local attorney fee, medical defense	125.00

Grand total.....\$2,502.03

**CONDENSED REPORT OF CASES AGAINST
MEMBERS OF THE IOWA STATE MEDICAL SOCIETY, 1920-1921**

To Dr. D. S. Fairchild, Dr. H. B. Jennings, Dr. Lewis Schooler, Medical Defense Committee.
Gentlemen:

We have submitted a full report upon all cases pending at the date of our last report and also of cases commenced since that date. The following is a summary of certain particulars in all cases commenced since the establishment of the Medical Defense Committee of the Society.

Cases commenced since organization of department	181
Cases commenced prior to the report of 1909.....	15
Cases commenced during 1909-1910.....	13
Cases commenced during 1910-1911.....	10
Cases commenced during 1911-1912.....	14
Cases commenced during 1912-1913.....	13
Cases commenced during 1913-1914.....	10
Cases commenced during 1914-1915.....	24
Cases commenced during 1915-1916.....	19
Cases commenced during 1916-1917.....	17
Cases commenced during 1917-1918.....	13
Cases commenced during 1918-1919.....	14
Cases commenced during 1919-1920.....	7
Cases commenced during 1920-1921.....	12
Cases pending at date of 1909 report.....	7
Cases pending at date of 1910 report.....	10
Cases pending at date of 1911 report.....	14
Cases pending at date of 1912 report.....	25
Cases pending at date of 1913 report.....	26
Cases pending at date of 1914 report.....	21
Cases pending at date of 1915 report.....	28
Cases pending at date of 1916 report.....	33
Cases pending at date of 1917 report.....	33
Cases pending at date of 1918 report.....	29
Cases pending at date of 1919 report.....	29
Cases pending at date of 1920 report.....	26
Cases now pending.....	30
Total cases disposed of.....	157

Nature of Cases

Malpractice in removing seed wart.....	1
Malpractice in not discovering and uniting several ligaments of the wrist.....	1
Alleged assault	2
Removal of cancer of the hand.....	1
Conspiracy to have plaintiff declared insane.....	2
Fracture of arm.....	25

Fracture of leg or femur.....	48
Appendicitis—sponge case.....	1
Operation for kidney—sponge case.....	1
Appendicitis—malpractice in operation.....	5
Appendicitis—exploratory opening	1
Childbirth, alleged failure to attend after alleged agreement to do so; child died (separate action by father and mother).....	2
Libel for testifying patient was insane.....	1
Hand crushed, alleged improper treatment.....	1
Failure to discover sub-coracoid dislocation of shoulder joint	1
Hand lacerated, alleged improper treatment.....	1
Ear, alleged improper treatment.....	2
Eye, alleged improper treatment.....	1
Infection, childbirth	2
Medical treatment of child.....	1
Abortion, improper after-treatment.....	3
Abortion, without justification.....	2
Improper treatment of nail puncture in foot.....	1
Alleged removal of wrong kidney.....	1
Stomach trouble, alleged improper treatment and failure to treat.....	1
Anesthetic, death under.....	1
Improper diagnosis of diphtheria.....	1
Improper diagnosis of broken ribs.....	1
Removal of uterus, alleged negligent incision of the bladder	1
X-ray burn	4
Infection following amputation.....	1
Alleged improper treatment of scald.....	1
Removal of adenoids.....	2
Alleged improper abdominal incision.....	3
Failure to administer serum, patient died of lock jaw	1
Fracture of collar bone.....	2
Willful insertion of instrument, producing abortion	1
Operation for pregnancy of fallopian tube.....	1
Negligence in administration of poison, causing death	1
Improper treatment of wound in leg from kick of horse	1
Alleged negligence in communicating erysipelas to woman in childbirth.....	1
Negligence in suffering patient mentally delinquent to jump out of unguarded window in private sanitarium	1
Negligent amputation of finger.....	3
Negligence in attending and severing cords of hand	1
Wrongfully administering morphine.....	1
Communicating small-pox to patient in hospital	1
Fracture of lower jaw.....	1
Dislocation of knee.....	1
Cancer of stomach.....	1
Draining pelvic abscess.....	1
Operation for tonsils without consent.....	2
Negligence in removing button from child's throat	1
Hot water bottle burn.....	1

Failure to discover fractured vertebrae.....	1
Improper treatment of vaginal infection.....	2
Improper treatment of inflammatory rheumatism.....	2
Negligent removal of tonsils.....	3
Negligent treatment of gunshot wound.....	1
Negligent treatment of abscess of bladder.....	2
Negligent treatment of abscess under arm.....	1
Wrong diagnosis of sprain of ankle.....	1
Failure to properly tie umbilical cord.....	1
Failure to discover fracture of ilium.....	1
Exposing patient to scarlet fever by wrong diagnosis	1
Improper treatment of insect bites.....	1
Negligent treatment of fractured finger.....	1
Improper treatment of fractured foot.....	1
Paralysis of facial nerves in mastoid operation....	1
Failure to diagnose abscess of kidney.....	1
Improper treatment of ligaments of wrist.....	1
Negligence in tying patient in bed, resulting in gangrene and amputation of leg.....	1
Exploratory opening for diagnostic purposes, negligence in exposing person, resulting in death of child.....	1
Negligent burn by radium.....	1
Total amount of damages claimed in all cases to date.....	\$1,866,573
Judgments recovered against members.....	5
Aggregate amount of judgments.....	\$ 8,775
Consultation on cases threatened in which no proceedings were had.....	87

Respectfully submitted,
Dutcher, Davis & Hambrecht.

Iowa City, Iowa, April 30, 1921.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Dr. J. W. Cokenower, Chairman of the Committee, presented the report as follows:

The Thirty-Ninth General Assembly, which adjourned April 8, 1921, will go down in history as having done the least for maintenance of our present medical laws, or anything to improve them, but on the contrary, did more for drugless healing, than in any preceding session, although otherwise, did much for the protection of the general public health, in fact there were more public health and welfare measures passed than there have been in the history of the state for many years.

The advocates of better health laws in the past, have considered that human life was of more importance than that of farm animals, and have asked the legislature for pure milk for the children, and the request was turned down, but, when it was demonstrated that tuberculosis in the herds, was killing off the pigs which drank the same class of milk furnished the children, then the legislature had no hesitancy in making an appropriation of \$250,000 to clean up the tuberculosis from the farm, in order to save the life of the pigs; and the U. S. Government pro-

vided another \$250,000, making \$500,000 for the two-year period.

A few days later the same legislature hesitated to appropriate an increase of \$5,000 to the board of control, making a total of \$10,000 for an educational campaign against the ravages of tuberculosis in the human family.

With the special session of the general assembly to be held this fall or winter to recodify the laws of the state when every law on the statute books, must be revised or passed in its present form, there must be an awakening in the medical profession, if the laws which have taken years to secure are maintained, much less improved.

Your Legislative Committee has succeeded, with the valuable assistance of the officers and members, in organizing local legislative committees in eighty-five counties in the state and much good with modern medical educational propaganda has been accomplished and it is believed much more will be done.

The present members of the legislature will serve in the special session, and every county society, through its legislative committee and officers should consult and advise with its members of the legislature.

The following brief abstracts on public health laws which were either new, changed or amended, show what the General Assembly did as well as what it did not do.

Vital Statistics—With a view of providing accurate information, on which to base a campaign for better health in Iowa, H. F. 584, was introduced by Capt. Doolittle, who was an officer in the Rainbow Division and had an opportunity of studying health conditions in the army. The law makes the Secretary of the State Board of Health the registrar, and severe penalties are prescribed for failure to report births and deaths, and further to insure thorough organization and efficiency of the registration of such statistics—\$10,000 was appropriated to carry on the work.

To Prevent Blindness—Recognizing that a large per cent of blindness could be prevented, if proper precautions are taken at the time of birth of a child, S. F. 307, by White, becomes a law and severe penalties are prescribed for the physician, obstetrician, mid-wife or anyone officiating or assisting in the birth of a child who fails to report to the health officers or physician concerning inflammation or unusual redness of the eyes of an infant any time within four weeks after birth. Your committee has been informed that thirty children are now in the Vinton Hospital for the blind due to infection of the eyes at the time of birth.

Education of Deaf Children—Horchem's bill, S. F. 373, provides for an increase in the tuition of deaf children. There are three schools in the State, Dubuque, Des Moines and Ottumwa, where deaf children are educated, in addition to the State School for Deaf at Council Bluffs. This bill was amended, per-

mitting children up to twelve to attend these schools.

State Hospital Available—In addition to the children who are admitted to the State Hospital at Iowa City, prescribed by law, other clinical child patients may be admitted on part pay, when conveniences are available, according to an amendment which becomes a law in July.

Psychopathic Hospital—New powers are given the medical director, in the treatment and disposition of patients entered there for observation and treatment, afflicted with abnormal mental conditions, giving authority to transfer them to the State Hospital for the Insane.

Feeble-minded—This law was amended, eliminating age limit for admittance to the institution for feeble-minded at Glenwood, instead of for children, as before.

Dope Legislation—Since the abolishment of the Institute for inebriates at Knoxville, there has been no place to send individuals, addicted to the excessive use of narcotics, drugs or of intoxicating liquors, which prompted a law and appropriation to equip such institutions as come under the management of the State Board of Control, for detaining and treating such patients committed by the Court.

Bacteriological Laboratory—The increasing demand made on the bacteriological laboratory at Iowa City, from a dog bite to a fever blister, including venereal diseases, typhoid fever, examining local drinking water, tuberculosis, etc., has swamped the institution and its efficiency on account of inadequate support which prompted an appropriation sufficient to necessary demands.

County Hospitals—For the improvement and maintenance of County Hospitals the millage tax has been doubled and Boards of Supervisors are given authority to establish one or more wards in any public or private hospital, for the use of the County, and levy a tax for the maintenance of same, not to exceed one-half of one mill on the dollar of the taxable property within the county.

Nurses' Home—An appropriation of \$25,000 was made to complete the Nurses Home at Iowa City and the appropriation committee prescribed the methods of using the funds.

Age of Consent—Representative Mayne secured a victory in the House raising the age of consent to eighteen years for girls and for the protection of boys as well, but the Senate reduced the age to sixteen after which the House reluctantly concurred.

Foot Pediatry—The day of the "corn doctor" will pass from Iowa, July 1st, when under the direction of the State Board of Medical Examiners the foot specialist will be licensed as Pediatrists.

Milk Regulation—The most noted victory of the session for those working in the interest of the public health was the passage on the last day of the session of the amended Knickerbocker bill, regulating milk supply to cities and towns. This law goes into

effect at once, but the time of applying the tuberculin test is deferred a short time, in order that the federal and state tests may be made as provided in another bill by the same author.

Cafe Regulation—The Blake bill provides for the regulation, licensing and sanitary inspection of restaurants, cafes, cafeterias, dining rooms, lunch wagons, lunch counters and all places where prepared food or meals are furnished to the public, and the enforcement of this law is given to the Hotel Inspector of the state.

Bills That Failed—The number of bills on public health were less than for a number of years.

Those that failed were, marriage registration, pension for the blind, pollution of Iowa streams, lakes or other bodies of water, increase marriage license, Iowa Hospital for venereal cases, child hygiene, public school physical examination, sanitary drinking water, nurses' special board, regulate practice of drugless healing and board for examining intoxicating character of drugs.

Agriculture Health Measure—The farmer legislature looks with favor on legislation protecting his stock against disease, while he hesitates at bills calculated to protect the lives of the human family but seems to have just awakened to the fact that tuberculosis in animals is much less disastrous than in human beings and the fact that diseased animals are not marketable, has caused a great change and he is now in favor of better health for human beings.

Chiropractic and Osteopathy—The former received recognition and both separate boards which was opposed on account of inadequate educational requirements and multiplicity of boards because their requirements put a premium on illiteracy and a discount on medical education.

The chiropractic's success was due to thorough organization, public press propaganda, letters, telegrams and personal efforts, claiming their opposition was mercenary persecution, instead of prosecution for higher medical education, and it was surprising the effect it had on a majority of the legislature, as shown by results.

J. W. Cokenower, Chrm.,
J. W. Harrison,
B. L. Eiker,

Committee.

It was moved that the report be accepted. Seconded and carried.

No report from Committee on Constitution and By-laws at this time.

No report from Committee on Health and Public Instruction at this time.

REPORT OF SPECIAL COMMITTEE ON EUGENICS

In the absence of the Chairman, Dr. Max E. Witte, the report was read by Dr. M. N. Voldeng, member of the Committee.

The report follows:

Your Committee on Eugenics has no legislative action to report touching the matters of ADVERSE HEREDITY in consonance with its recommendations of a year ago. In these stressful times of readjustment, conditions are not favorable for such legal action. Still the matter of "being well born," is of such fundamental and paramount importance to the future of our race, that it is the consensus of opinion of the thoughtful amongst us, that the matter should not be allowed to fall into obscurity by neglect or forgetfulness, but rather be vigorously pushed in the right direction in the future.

The members of the committee, have at all times enlisted the interest of our people in this matter in public and in private hoping that these labors may aid as a leaven to develop and ripen public opinion for the day of legislation.

It has been urged by members of the Iowa State Medical Society that in view of the momentous importance of the cause, this committee or one with a similar purpose be continued.

Respectfully submitted,
Max E. Witte, Chairman,
M. N. Voldeng,
F. A. Ely,
Committee.

Upon motion duly seconded and carried, the report was accepted.

No report from Committee on Conservation and Hearing.

Dr. Thos. F. Duhigg and Dr. J. W. Cokenower led in a general discussion on subjects that were brought out in the report of the Committee on Public Policy and Legislation.

A motion was made by Dr. Thos. F. Duhigg, that the Secretary of the State Society communicate with the County Societies requesting them to consider in regular meeting the question of securing cadavers for use in the Anatomical Department of the State University; that they meet with the undertakers in their respective counties and inform them of the provisions of the law which make it possible, legally, to send to the State Medical School certain unclaimed dead.

Seconded and carried.

Upon motion the House of Delegates adjourned at 5:15 p. m. until 8:00 a. m. Thursday.

The delegates from the various congressional districts then assembled for the purpose of selecting a member from each district to serve upon the Nominating Committee. The committee reported was as follows:

First District—C. H. Magee, Burlington.
Second District—H. J. Prentiss, Iowa City.
Third District—T. J. O'Toole, Eagle Grove.
Fourth District—W. E. Long, Mason City.

Fifth District—J. A. Pinkerton, Traer.
Sixth District—J. F. Herrick, Ottumwa.
Seventh District—W. S. Conkling, Des Moines.
Eighth District—A. E. King, Blockton.
Ninth District—V. L. Treynor, Council Bluffs.
Tenth District—D. J. Townsend, Lohrville.
Eleventh District—A. M. Bilby, Galva.

Second Meeting—Thursday Morning, May 12

The House of Delegates met in Room 322, Hotel Fort Des Moines, and was called to order at 8:15 a. m. by President Macrae.

Thirteen officers and thirty-four delegates, a total of forty-seven responded to the roll call.

The reading of the minutes of the previous meeting was deferred.

REPORT OF THE COUNCIL

Dr. Paul E. Gardner, New Hampton, Chairman, in the absence of the Secretary of the Council, Dr. G. C. Moorehead, Ida Grove, read the report submitted. Upon motion duly seconded and carried, the report was accepted.

The report follows:

From reports, it is gratifying to state that the County Society work is in a good healthy condition—80 per cent of eligible physicians are members of their County Societies. A slight increase over last year; 90 per cent report general interest, either good or fair, and 10 per cent poor. The work of the County Nurse is reported as being very satisfactory to the profession and that she has been helpful in the control of disease.

The Venereal question shows no abatement although no one is of the opinion it has increased during the past year.

Fee splitting is reported as generally prevalent, but not increasing and in a few counties the practice is reported as dying out.

There is some sentiment and discussion throughout the state regarding the group and unit plan of medical organization—The Group Plan is in operation in a number of counties and appears to give satisfaction to the physicians within the group. Most of the groups are styled clinics and are limited in membership. There is no county where the entire county society are thus associated together. One at least of these groups has been abandoned this year. There is some interest in the unit plan as outlined by Dr. Billings, but no steps are being taken to inaugurate such a plan of practice.

There is a general belief that our present plan of practice will be encroached upon by legislation and contract work.

The most disturbing factor in our profession is the tendency to specialize. In some places there are specialists in every line of work. These are usually the younger men, who find the special work more lucrative and pleasant. The general practitioners as a class are liable to suffer loss of prestige and consequent deterioration.

Financially, the profession has suffered with the farmer. This has to some extent, curtailed society attendance. One County Society voted unanimously to pay the expense of its delegate to the State Society meeting.

Paul E. Gardner, Chairman,
G. C. Moorehead, Sec'y.

President Macrae was summoned from the meeting, and Dr. H. C. Eschbach was called to the chair.

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

Dr. V. L. Treynor, Chairman, presented the following changes in the By-laws intended to clarify some questionable points:

Chapter XII, Section 5, by adding "in Iowa" after the word "physician" in the fifth line.

Chapter III, Section 4, by adding the word "guests" after "President" in second line.

Chapter IV, Section 3, by adding the words "and officers" after "delegates" in the first line, and moved that the amendments be laid upon the table.

Dr. Treynor then read a communication from Dr. W. B. Small, Waterloo, with reference to the question of paying the expenses of the State Society delegates to the American Medical Association House of Delegates.

No action was taken.

REPORT OF PUBLICATION COMMITTEE

Dr. D. S. Fairchild, Sr., Chairman, gave a brief report for the Publication Committee, and urged that the amount of the annual dues be continued at the present rate, thus allowing the Committee to publish a larger and better Journal in the future.

President Macrae resumed the chair at this time.

A discussion on the financial policy, increasing size of Journal, increasing or decreasing dues and other matter pertaining to the profession followed this report—Drs. Treynor, Magee, Cokenower, Duhigg, Small and Throckmorton, participating.

Dr. W. A. Rohlf, Waverly, offered the following resolution: That the Publication Committee and the Trustees be empowered to increase the size of the Journal to meet the needs of the Society.

Seconded by Dr. J. F. Herrick, Ottumwa. Unanimously carried.

Dr. T. F. Duhigg then moved that the By-laws be amended by substituting "\$2.00" for "\$3.00", Chapter VIII, Sec., 8, line 29, and recommended that "\$2.00" of the Society dues be used as needed towards defraying the expense of publishing the Journal.

The amendment was received and placed upon the table.

REPORT OF COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION

The report of this Committee was presented by Dr. Jeannette F. Throckmorton, member of the committee.

No objections being made, the President announced the report would be accepted as read.

The report is as follows:

Lectures given to various groups: High school girls, college women, womens' clubs, parent-teachers association, mothers' circles, other organized groups of thinking women and to girls in industry and business.

In the latter group, permission was often given to lecture in industrial and commercial establishments largely on employer's time; in some factories the employers gave half time and the girls gave half time; such lectures being given usually at the noon hour as they ate their lunches.

Various types of industrial groups addressed include the following: Confectioners, groceries, meat packers, manufacturers of dresses, underwear, overalls, men's shirts, gloves, hose, fur coats, waists, shoes, buttons, cigars, cigarettes, pickles, biscuits, cookies, flavor extracts, oatmeal, starch, coffee, tinned foods, paper boxes, face powder, wire screening, farm machinery, etc.

In addition groups in banks, life insurance, offices, accident insurance, department stores, dry goods stores, telephone offices, maids in hotels, manufacturing companies, nurses, women in V. D. Clinics, girl scouts, girls' clubs, women's clubs, mothers' circles, parent-teacher association, school girls in seventh and eighth grades, high school girls, business schools, college and university women.

If time permitted, conferences followed the lecture when girls might come singly or in groups and ask questions; and this was especially valuable in high schools and colleges.

Many showings of "The End of the Road" were made, and club women took care of the express and local expense and served as door-keepers and ushers. Also "How Life Begins" was shown in various public schools; likewise charts for boys and special charts for girls.

At the annual state fair, exhibits were made under the Bureau of Venereal Disease Control, under the efficient supervision of Dr. Wilbur S. Conkling; and Dr. Throckmorton as state lecturer for women was present during the fair and held conferences with women and girls daily and by these conferences reached thousands of women with advice and lectures and literature.

A summary of the year's work is as follows: 590 lectures reaching 91,000 women and girls, requiring 435 speaking hours, given in 112 towns and cities in Iowa.

Special effort has been made to work through the club women and educators of the state. County and city superintendents have cooperated splendidly, re-

sulting in many lectures before teachers' institutes and in some instances the health lectures were so attractive that other departments were deserted and the ruling had to be made that teachers must attend the classes scheduled for them and await their turn for the social hygiene and health lectures.

Superintendents of city schools almost unanimously turned over their schools for lectures and conferences and the movie film; and the same eager spirit of interest prevailed in colleges and universities where the lecturer was welcomed, and hours for conferences scheduled far in advance with various groups of girls, and invariably the request came for more lectures in the future with more time allotted for their institution.

Itineraries covering 520 towns over a period of thirty-five weeks, has made possible the amount of work accomplished.

Thanks must be acknowledged to club women, mothers circles, parent-teacher associations, superintendents of city schools, superintendents of county schools, secretary state teachers association, deans and presidents of colleges and universities, Y. W. C. A. secretaries, sodalities, Red Cross chairmen, county and school nurses, ministers and priests, county medical societies, farm bureaus and home demonstration agents, for generous assistance and aid in arranging for lectures and advertising same.

It has been a real pleasure to meet the women and girls of Iowa, as they were eager listeners, interested and attentive, quick to ask questions and to learn, and very responsive to appeal for moral standards and clean communities.

Jeannette F. Throckmorton, M.D.

NEW BUSINESS

The Secretary presented a communication from the State Society of Wisconsin, and another communication from the State Society of Ohio, as follows:

Resolutions adopted by the House of Delegates of the State Medical Society of Wisconsin at its annual meeting in LaCrosse, September 8-10, 1920.

First

Whereas, in our forty-eight states, there are as many separate examining boards, and

Whereas, licensed physicians in one state may not always practice in other commonwealths without vexatious procedures, and

Whereas, the practice of medicine is uniform throughout the length and breadth of the land,

Therefore be it Resolved, That it is the opinion of the House of Delegates of the State Medical Society of Wisconsin that the right to practice medicine in one state should be extended to include the right to practice medicine in any part of the United States.

Second

Whereas, the practice of the indiscriminate prescribing of liquor by some members of the medical

profession on the mere request therefor, and without regard to the need of the individual, is bringing our profession into disrepute, and

Whereas, the State Medical Society of Wisconsin as a body desires to affirm its wish that all its members shall render strict obedience to the laws, whatsoever they may be,

Therefore be it Resolved, that the State Medical Society of Wisconsin as a body condemns all and every effort on the part of the medical profession to take unfair advantages of the privileges to the physician under the law by the indiscriminate granting of prescriptions for the purchase of alcoholic stimulants.

Third

Be it Further Resolved, that copies of the above resolution be sent the proper officers of all State Medical Associations for such action as they might see fit to take.

Respectfully submitted,

Rock Sleyster, Sec'y.

Wauwatosa, Wisconsin, October 18, 1920.

Resolution adopted by the House of Delegates of the Ohio State Medical Association, at its last annual meeting, held in Toledo, June 1, 2, 3, 1920:

Whereas, in our forty-eight states there are as many separate medical examining boards, and

Whereas, licensed physicians in one state may not always practice in other commonwealths without vexatious examinations and expense, and

Whereas, the government in time of war frequently sent physicians into army camps in other states, and therefore disregarded state boundaries, and

Whereas, there is practically homogeneity in the anatomical and psychological make-up of the people in the various states, and

Whereas, the same may be said of the physicians throughout the land.

Therefore, be it Resolved, that it is the opinion of the House of Delegates that the right to practice in one state should be extended to include the right to practice medicine in any part of the United States.

Be it Further Resolved, that a copy of this resolution be sent to the proper officials of all medical societies, and to national and quasi-national medical associations, and that the American Medical Association be especially urged to perfect a plan by which inter-state medical practice be made as easy as inter-state commerce.

Dr. W. S. Conkling, Des Moines, moved that the communications be referred to the State Board of Medical Examiners without comment.

Seconded and carried.

The Secretary then read a communication from the National Anesthesia Research Society, and moved that the House of Delegates sanction the request made in this communication.

Seconded and carried.

The communication follows:

March 29, 1921.

Dr. T. B. Throckmorton,
Sec'y Iowa State Medical Society,
Des Moines, Ia.

My Dear Secretary:

Will you kindly, in behalf of the Anæsthetists of the United States, submit the following Resolution for a Section on Anæsthesia in the A. M. A., to your House of Delegates for consideration and favorable action:

Whereas, the safety of patients, the advancement of surgery and the requirements of hospital service demand the rapid extension of the specialty of Anæsthesia, therefore be it

Resolved, that the Iowa State Medical Society hereby petitions and urges the House of Delegates and the Council on Scientific Assembly to establish a Section on Anæsthesia in the A. M. A. during the Boston meeting, June, 1921.

This resolution is now being considered by the Council on Scientific Assembly and it has the endorsement and enthusiastic support of the incoming officers of the A. M. A. The resolution will be introduced in the House of Delegates by Dr. F. C. Warnshuis, vice-chairman, and will be seconded by delegates representing entire State Societies that have already acted favorably in the matter.

The resolution is also being supported by petitions signed by hundreds of Fellows of the A. M. A. in all parts of the country.

Awaiting favorable action in this matter, we remain, in behalf of the Associated Anæsthetists of the United States.

Very respectfully yours,

F. H. McMechan, M.D.,

Secretary Inter-state and American Associations of Anæsthetists, Avon Lake, Ohio.

T. T. Frankenberg,

Secretary National Anæsthesia Research Society.

At 9:35 a. m. on motion, which was duly seconded and carried, the House of Delegates adjourned to meet at 8:00 a. m., Friday, May 13.

Third Meeting—Friday Morning, May 13

The House of Delegates met at 8:10 a. m. In the absence of the President, Dr. W. W. Beam, Rolfe, moved that Dr. H. C. Eschbach, Albia, act as President pro-tem.

Seconded and carried.

The House was then called to order by Dr. Eschbach, president pro-tem. The Secretary called the roll and eleven officers and forty delegates responded.

President Macrae then took the chair.

The minutes of the first meeting, Wednesday afternoon, May 11, were read by the Secretary, and

upon motion, duly seconded and carried, were approved as read.

The minutes of the second meeting, Thursday morning, May 12, were read, and upon motion duly seconded and carried were approved as read.

REPORT OF THE COMMITTEE ON NOMINATIONS

The report of the Nominating Committee being the first order of business, Dr. J. F. Herrick, Chairman, presented the report.

Upon motion duly seconded and carried, the report was accepted.

The report follows:

Your Committee on Nominations wish to make the following report:

For President-elect—Dr. Eli Grimes, Des Moines; Dr. C. J. Saunders, Fort Dodge; Dr. C. E. Van Epps, Iowa City.

For First Vice-President—Dr. S. A. Spilman, Ottumwa.

Second Vice-President—Dr. M. A. Tinley, Council Bluffs.

For Secretary—Dr. Tom B. Throckmorton, Des Moines.

For Treasurer—Dr. Thos. F. Duhigg, Des Moines.

For Councilors, Third District, Dr. A. G. Shellito, Independence; Tenth District, Dr. W. W. Beam, Rolfe.

For Trustee—Dr. W. B. Small, Waterloo.

For Delegate A. M. A.—Dr. J. C. Rockafellow, Des Moines.

For Alternate Delegate—Dr. M. N. Voldeng, Woodward.

Committees

For Medico-Legal—Dr. D. S. Fairchild, Sr., Clinton.

For Public Policy and Legislation—Dr. W. W. Pearson, Des Moines; Dr. B. L. Eiker, Leon; Dr. Daniel J. Glomset, Des Moines.

For Public Health and Instruction—Dr. F. H. Conner, Nevada.

For Constitution and By-Laws—Dr. V. L. Treyner, Council Bluffs; Dr. C. B. Taylor, Ottumwa; Dr. John McClintock, Iowa City.

For Publication—Dr. D. S. Fairchild, Sr., Clinton; Dr. W. L. Bierring, Des Moines; Dr. C. P. Howard, Iowa City.

For Finance—Dr. C. P. Frantz, Burlington; Dr. A. E. King, Blockton; Dr. E. C. McClure, Bussey.

Meeting place for 1922—Des Moines.

Dr. Herrick moved that we proceed to the election of President-Elect.

Seconded and carried.

ELECTION OF OFFICERS

The House proceeded to an election.

The President appointed Dr. W. W. Beam, Rolfe and Dr. M. N. Voldeng, Woodward, to act as tellers,

and the ballot was taken for President-Elect. Fifty-one ballots were cast, Dr. Charles J. Saunders, Fort Dodge, having received the majority of votes cast on the first ballot, was declared elected President-Elect by President Macrae.

Dr. Herrick moved that as there was but one candidate selected to fill the remaining vacancies, the Secretary be instructed to cast the ballot of the House of Delegates for the balance of the officers and committees.

Seconded and carried.

The Secretary then declared the ballot cast for the remaining officers and committees.

REPORT OF THE FINANCE COMMITTEE

Before making the report as Chairman of the Finance Committee, Dr. C. J. Saunders, Fort Dodge, newly elected President-Elect, thanked the House of Delegates for the high honor they had just conferred upon him.

The report follows:

Mr. Chairman and Members of the House of Delegates:

Your Finance Committee beg leave to report as follows:

We have examined the report of the Treasurer, also vouchers, checks and bank balances, and find them to be correct and in accordance with the report the Treasurer submitted. I therefore move the adoption of the Report.

C. J. Saunders,
Chrm. Finance Committee.

On motion duly seconded and carried the report was accepted.

REPORT OF THE CONSTITUTION AND BY-LAWS COMMITTEE

Dr. V. L. Treynor, Chairman of the Committee, requested the Secretary to read the report presented to the House of Delegates May 12 suggesting certain changes in the by-laws intended to clarify certain points.

The Secretary then read the proposed amendments giving an explanation for each.

The amendments are:

Chapter XII, Section 5, by adding "in Iowa" after the word "physician" in the fifth line.

Chapter III, Section 4, by adding the word "guests" after "President" in the second line.

Chapter IV, Section 3, by adding the words "and officers" after "delegates" in the first line.

Chapter XIV, Section 9, by striking out the words "together with the Editor" following the word "publication" in the first line.

Dr. V. L. Treynor moved the adoption of the report. Seconded by Dr. Duhigg, and carried.

Dr. Duhigg moved the adoption of the amendment proposed Thursday reducing the dues per capita \$1.00

for the medico-legal fund and increasing the fund for the Journal \$1.00 per capita.

Seconded and carried.

Dr. V. L. Treynor presented the question of permitting District Societies to become component parts of the State Medical Society.

Dr. Jay M. Crowley, Rock Rapids, presented the following amendment to the Constitution:

1. That Article III be amended by inserting the words "and district" between the words "county and medical."

2. That Article V and VI, and Sections 2 and 3 of Article IV be amended by striking out the word "county" wherever it appears.

Dr. Crowley moved that the amendments be laid upon the table for one year.

Seconded and carried.

NEW BUSINESS

Under the head of "New Business," the Secretary presented a resolution from the American Legion as follows:

Whereas, The American Legion, at their last National Convention in Cleveland, in September of 1920 adopted the "Poppy of Flanders Field" as the memorial flower to be worn on Memorial Day, and

Whereas, The Legion has requested that the emblem be not commercialized, and

Whereas, the flowers are being made in the very place where the boys fought and won and where—so many sleep, and

Whereas, The American-Franco Children's League are furnishing these poppies and the entire proceeds from the sale will go to the League for the relief of the children in devastated France.

Be it Resolved, that the House of Delegates of the Iowa State Medical Society herein assembled, endorse the prospect of this visual expression of love and reverence for the memory of "Flanders Field." The American-Franco Children's League, Inc.,

Lois Wilson Jellies,
Organizer for Iowa.

Dr. Duhigg moved the adoption of the resolution. Seconded and carried.

The Secretary then read the resolution that was presented to and unanimously adopted by the General Session Thursday evening, May 12. The resolution follows:

Whereas, we recognize the importance of preventive medicine, and

Whereas, we believe in a larger measure of participation on the part of State and County Medical Societies in public health movements,

Therefore, in order to fulfill in these respects both our desire and our recognized duty,

Be it Resolved, That it is the sense of this scientific section of the State Medical Society that a state director of field activities should be employed either on full or part time.

D. S. Fairchild, Sr., Clinton.....	1924
Lewis Schooler, Des Moines.....	1923
H. B. Jennings, Council Bluffs.....	1922

Scientific Work

Alanson M. Pond.....	Dubuque
Tom B. Throckmorton.....	Des Moines
Thos. F. Duhigg.....	Des Moines

Public Policy and Legislation

W. W. Pearson.....	Des Moines
B. L. Eiker.....	Leon
D. J. Glomset.....	Des Moines
Alanson M. Pond.....	Dubuque
Tom B. Throckmorton.....	Des Moines

Health and Public Instruction

Henry Albert, Iowa City.....	1922
Jeannette F. Throckmorton, Chariton.....	1923
F. H. Conner, Nevada.....	1924

Constitution and By-Laws

V. L. Treynor.....	Council Bluffs
C. B. Taylor.....	Ottumwa
J. T. McClintock.....	Iowa City

Publication

D. S. Fairchild, Sr.....	Clinton
W. L. Bierring.....	Des Moines
C. P. Howard.....	Iowa City

Finance

C. P. Frantz.....	Burlington
A. E. King.....	Blockton
E. C. McClure.....	Bussey

Arrangements

Alanson M. Pond.....	Dubuque
Tom B. Throckmorton.....	Des Moines
Thos. F. Duhigg.....	Des Moines
Two members from Polk County Medical Society.....	

SOCIETY PROCEEDINGS

Butler County Medical Society

The Butler County Medical Society held its regular spring meeting at the office of Dr. Reeve in Allison Tuesday afternoon, April 26. Plans were made for tuberculosis clinics at Parkersburg and Greene. A committee composed of Doctors Hobson and Bruechert will be in charge of the clinic at Parkersburg, and Doctors Nevins, Bigelow, Groom and Call will be in charge of the Greene clinic.

Dr. B. Ensley of Shell Rock was elected as the society's representative on the Red Cross Nursing Activities Committee. The work of the County Red Cross Nurse and Anti-Tuberculosis Society were endorsed by the society.

Officers of the society were elected as follows: Dr. Reeve, president; Dr. Nevins, Greene, vice-president; Dr. Roder, Aredale, secretary-treasurer. The name of Dr. Lambert of Bistow was proposed for membership at this meeting and Dr. Roder of Aredale was elected to membership.

Cerro Gordo County Medical Society

The Cerro Gordo County Medical Society held its monthly meeting at the Chamber of Commerce on April 27th. It was featured by talks from Dr. F. T. Scanlon, formerly of Clear Lake, who has been taking special study in New York for the past six months, and Dr. Stella Mason of Mason City who recently returned from a trip around the world.

Dr. Scanlon gave an interesting talk of matters of interest to the physicians, while Dr. Mason told of the sanitary and hospital conditions in the foreign countries she visited.

Dr. George M. Crabb and Dr. C. E. Dakin also spoke. Discussion pertaining to each of their subjects followed.

Twenty-five members were in attendance.

Members of the Cerro Gordo County Medical Association held an interesting and largely attended meeting at the Chamber of Commerce Tuesday evening, May 31, with Dr. T. A. Burke, president of the organization, presiding.

Dr. L. R. Woodward read a well prepared paper on "Heart Block."

Dr. Chester Franchere read an interesting paper on "Heart Disease and Pregnancy."

Dr. W. E. Long, county coroner, made a report on the state medical meeting held in May at Des Moines, to which Dr. Long was sent as a delegate from the association.

Following the papers and a session of scientific discussion a social time was enjoyed.

Des Moines County Medical Society

Burlington needs a modern, efficient health department. This is the time to establish one.

A department where the position of health officer is sold at auction and the lowest bidder getting the job for \$600 a year will not protect the health and welfare of Burlington.

There are two propositions that the Des Moines County Medical Society will place before the Burlington city council. The first public step will be taken when Dr. George H. Steinle, the present health officer, will go before the council and present a statement showing the unfavorable condition of the city health department, at present, and a formal request that the council meet with a committee from the Des Moines County Medical Society to devise plans for a new and more efficient health department.

The first action to secure greater protection for the health of Burlington was taken in a meeting of the medical society. At that time a committee was appointed to determine what should be done.

This committee of three leading Burlington physicians met in the Elks club rooms, and requested Dr. Steinle to offer suggestions for reforms that experience has shown are necessary.

In conjunction with Dr. Steinle the statement, or petition for a reorganization of the health work was prepared. It relates that some years ago the health department functioned on a fair basis but that following a decrease in city revenues a mistaken economy was inaugurated at the expense of the health department and the system of peddling the position of health officer was begun.

Attention is called to the fact that if Burlington desires to join progressive cities in protecting the health of its citizens and particularly the children in

schools, aid must come primarily from the city council.

Members of the Des Moines County Medical Society are thoroughly aroused to the necessity of creating an efficient health department, absolutely divorced from politics. They want appointments made on merit, not pull, and salaries that will provide sufficient remuneration to attract a competent physician for full time work. There is no criticism of the work of Dr. Steinle and his efficient assistant, W. F. Schroeder, assistant health officer. In fact the work of Mr. Schroeder, who does hard conscientious work, at a meager salary, is highly commended.

What the medical men want is a department reorganized on modern lines that will enable its officers to adequately protect the health of the community and eradicate evils and diseases that are now beyond the resources of the present under-officered, ill-paid department.—Burlington Hawkeye.

Fremont County Medical Society

The Fremont County Medical Society held a meeting in Hamburg which was well attended and many visiting doctors being present from other towns outside the county, two doctors coming from as far East as Blanchard. Many of the physicians were accompanied by their wives. A short session was held at the Masonic lodge rooms, after which they attended the lecture given at the Colonial, which was the feature of the meeting.

Through the efforts of Dr. A. E. Wanamaker, secretary of the association, and the local physicians, Dr. Palmer Findley and Dr. Clyde Roeder, of Omaha, gave two addresses to Hamburg audiences. The first lecture was given at 1:30 p. m., and was for ladies only, at which time the cancer question was discussed and illustrated with lantern slides. One hour later another session was held, to which the general public had been invited. The attendance at both lectures was good, and the interest keen. The subject was discussed in such a way as to make this dread disease much better understood by the layman. The use of the Colonial was kindly donated by Mr. Colon for the meeting. This service on the part of the doctors to the community is very commendable, and is appreciated by those who had the opportunity of hearing the lectures.

At five o'clock a banquet was given by the local physicians to the visitors, and the ministers and editors and their wives, at the Loyal Hotel.

Henry County Medical Society

Dr. Mackin, superintendent of the state hospital for insane, located at Mt. Pleasant, was host Thursday, April 28, to the physicians of Henry county and several guests from Fairfield, Burlington and Ottumwa. The meeting resulted in the organization of the Henry County Medical Association. The dentists of the county were also present.

The physicians are in full sympathy with the new hospital and a committee consisting of Drs. Geeseki

and Sternberg of this city, and Dr. McConaughy of Winfield, was appointed to confer with the hospital board in regard to furnishing the operating room, the x-ray room and the laboratory. At noon a luncheon was served by Mrs. Mackin.

Poweshiek County Medical Society

This was the annual meeting of the society at which time the following officers were elected for the ensuing year: President, E. J. Ringema, Brooklyn; vice-president, J. R. Ravitts, Montezuma; secretary, E. E. Harris, Grinnell; censor, Dr. Crain, Deep River; delegate, E. E. Harris, Grinnell; alternate, E. F. Talbott, Grinnell.

The secretary reported \$70.24 in the treasury. The publication of a roster of the officers and members of the society was authorized.

Dr. E. M. Medlar of Iowa City gave a very excellent paper on "Chronic Mastitis and its Relation to Cancer of the Breast," illustrated by lantern slides. Dr. Medlar is the pathologist at the medical school of the State University.

The physicians present were: Williams of Montezuma; Wilcox of Malcom; Busby, Simeral and Ringema of Brooklyn; Talbot, Lewis, Paris, Evans, Lauder, Somers, Hill, Hopkins and Harris of Grinnell.

The society was the guest of Dr. C. D. Busby, who entertained with great pleasure to all those present. The next meeting is to be held in August at Montezuma.

E. E. Harris, Sec'y.

Union County Medical Society

The Union County Medical Society in capacity of General Medical and Surgical Staff of the Greater Community Hospital held the regular monthly clinic at the hospital. It was well attended despite the inclement weather.

Those present were: Drs. Jas. Macrae, W. K. Keith, H. M. Stanley, H. A. Childs, A. S. Beatty, Cleve Coakley, C. B. Roe, J. W. Lander, F. E. Sampson, A. F. Watts.

Besides the very interesting scientific program provided by Drs. Beatty, Watts and Stanley, some matters of interest and importance to the general public were discussed and a movement initiated by which the County Medical Society may render valuable and long needed service to the community.

The Union County Medical Society offers the services of its members.

The census bureau report on causes of death for 1919 shows that tuberculosis which only a few years ago lead, has dropped to third place. Under continued pressure of education and training in health habits such as the Health Crusade movements, etc., and with improved facilities for early diagnosis and care of tuberculous persons the death rate from this disease will continue to fall with accelerating speed.

While the causes of heart disease differ in some respects from those of tuberculosis, the general plan

of campaign against this now leading agency of destruction is essentially the same as that which is making such splendid headway against tuberculosis. Early recognition and correction of conditions that breed disease finding the susceptible persons before they get it and so far as possible correcting the conditions that pre-dispose to heart disease and finding the diseased hearts before the damage has so far advanced as to send the sufferer in search of relief. Just common sense community co-operation for conserving community health.

Creston folks are pretty generally committed to the proposition that it is the right of every child to have at least a fairly decent education. Are we any less concerned that he should have a fairly dependable circulation?

In recognition of the importance of this matter and of its responsibility as a guardian of community health, the Union County Medical Society has declared its willingness to serve gratuitously as individuals and local groups in cooperation with health authorities. Boards of education, community service committees of the various organizations affiliated with the Greater Community Association, and Public Health Nursing Service of the county in examining all children of school age.

A committee was appointed to confer with the various agencies that would be concerned in such a movement with a view to developing a practicable and efficient plan.

MEDICAL NEWS NOTES

Medical Science and War

The president of the Kansas board of health, addressing the Kansas Medical Association Convention at Wichita the other day, said:

"The greatest compensation from the war was the forced progress in medical science and surgery, which in a few generations will benefit the human race more than the loss it suffered in the cost of human life."

The statement may be true.

But if the money expended for war were to be expended for hospitals and clinical laboratories, might the world not be able to accomplish in medical research all that it accomplished under the stimulant of war without anything like the cost in life and property.—Des Moines Tribune.

New Telephone System for Locating Physicians and Surgeons to be in Operation July 1

Keeping pace with its metropolitan sisters, Sioux City will have in operation by July 1, the next directory period, a physicians' and surgeons' telephone exchange. The special committees composed of Dr. J. A. Thomson, Dr. I. E. Nervig and Dr. W. Z. Earl, appointed by the Woodbury County Medical Society to make a thorough investigation of the experience of medical societies in Omaha, Des Moines, St. Louis

and St. Joseph, operating under the same copyright system, unanimously endorsed and recommended the exchange for Sioux City.

Charles J. Wisser, representing the St. Louis Operating Company, announced recently that the membership charges of \$4 per month and 25 cents extra for the extra line in the telephone directory under each member's name, would be guaranteed so long as the present toll charges for business and residence phones are in effect.

The value of this service is best exemplified as follows: When an emergency arises and you want to locate your family physician who is a member of the exchange, and cannot get in touch with him either at his office or residence, by referring to the telephone book under his residence number you will find the simple line, "if no answer call 56222," and the exchange immediately gets in touch with your physician either by phone or messenger.

HOSPITAL NEWS

Financial assistance for the Eleanor Moore County Hospital to the extent \$5,000 was voted by the board of supervisors at their session Thursday, May 12, after the situation of the institution had been explained by members of the board of trustees who met with the supervisors.

A class of eighteen nurses graduated from the nurses' training school at the Iowa Lutheran Hospital recently. Graduation exercises were held at the First Lutheran church, East Fifth and Des Moines streets.

Dr. Peter Peterson, president of the Illinois conference of Lutheran churches, delivered the graduation address. Dr. J. W. Martin of Des Moines spoke on behalf of the medical staff of the hospital, and the Rev. F. O. Hansen, superintendent of the hospital, presided.

The diplomas were presented by the Rev. A. Norbom, president of the board of directors. Hospital pins, signifying the office of nurse, were also presented by Miss Mary Tagel, superintendent of nurses at the hospital.

The graduating class is composed of the following members: Edna Olsen, Mildred Romedahl, Marie Kissel, Ingebory Due, Edna Swanson, Ella Curry, Elna Stendal, Signe Selander, Henrietta Danielson, Signe Cathony, Gean Woolford, Kathryn Johnson, Helen Liljequist, Lucile Mordahl, Leola Powell and Anna Bergstad.

Decision to urge the organization of a corps of staff physicians for each of the three Burlington hospitals was made in a meeting of the Des Moines County Medical Society, May 10. The detail plans for these organizations as outlined by the committee; Dr. G. H. Steinle, Dr. G. B. Crow and Dr. A. C. Moerke, were approved and the committee author-

ized to take the matter up with the official boards of the hospitals.

The staff physicians will act as an advisory board, in the hospitals, where they practice, and will have influence regarding conditions and improvements in the institutions. In the majority of large cities, each hospital has its staff, and the organization has proved not only satisfactory but a great contribution to hospital efficiency.

The committee from the Des Moines County Medical Society will also suggest names for the hospital staffs. A physician may be a member of each staff, since the staffs are generally composed of a number of practitioners.

Finley Hospital was founded in 1890. Dr. John M. Finley, who was a pioneer surgeon and one of the most eminent in his profession, had agitated it, and had further projected the establishment of a medical college in connection with it, and had the building erected for the same when his death cut short the project. Nothing was definitely accomplished until the summer of 1889, when his widow, Mrs. Ellen Finley, died, and with the view of perpetuating the memory of her husband, made provision in her will that her estate should go to a non-sectarian hospital in Dubuque and that the name should be "Finley."

Several interested themselves in the project. Mr. James H. Stout and Mr. F. H. Rumpf took a leading part in securing \$15,000 for the establishment of the present hospital. Dr. Finley's former home was selected for the hospital, because of its desirable location. The hospital was opened for patients in the summer of 1890. Mr. Abraham Slimmer in 1896, generously made a proposition to subscribe \$50,000 on condition that the people of Dubuque would raise a like sum. Mr. H. L. Stout subscribed \$25,000 and the remainder of the fund was raised amid great enthusiasm of all Dubuque people.

Then began the building of the new hospital in the summer of 1897. It was opened for patients in September, 1898.

In line with its progressive policy, and in order to function to the highest degree possible in the development of curative methods, Mercy Hospital, Cedar Rapids, has organized a staff. A closer cooperation between physicians and hospital, it is thought, will thus be inculcated, working out to the betterment of the hospital system.

Dr. W. J. Neuzil was chosen chairman. Dr. H. J. Jones is vice-chairman and Dr. Florence Johnston, secretary.

On the executive committee are Dr. C. S. Krause, Dr. J. J. Murphy, Dr. B. L. Sheldon, Dr. L. E. MacLaughlin, Dr. William Redmond and Dr. E. J. Neal.

Dr. J. C. Petrovitsky, Dr. A. R. Zuercher and Dr. W. J. Foster are on the committee on records.

The organization was perfected at a luncheon served to the doctors in the dining room of the hospital.

LeMars' new hospital will be standardized by the plan recommended by the American College of Surgeons. Standardization involves the following regulations.

1. That the physicians and surgeons privileged to practice in the hospital be organized as a definite group or staff.

2. That membership upon the staff be restricted to physicians and surgeons who are (a) competent in their respective fields, and worthy in character and in matters of professional ethics; that in this latter connection the practice of the division of fees, under any guise whatever, be prohibited.

3. That the staff initiate and, with the approval of the governing board of the hospital, adopt rules, regulations and policies governing the professional work of the hospital; that these rules, regulations and policies specifically provide: (a) That staff meetings be held at least once each month. (b) That the staff review and analyze at regular intervals the clinical experience of the staff in the various departments of the hospital, such as medicine, surgery, and obstetrics; the clinical records of patients, free and pay to be the basis for such review and analyses.

4. That accurate and complete case records be written for all patients and filed in an accessible manner in the hospital, a complete case record being one, except in an emergency, which includes the personal history; the physical examination with clinical pathological and x-ray findings when indicated; the working diagnosis; the treatment, medical and surgical; the medical progress; the condition on discharge, with final diagnosis; and in case of death, the autopsy findings when available.

5. That clinical laboratory facilities be available for the study, diagnosis, and treatment of patients, these facilities to include at least chemical, bacteriological, serological, histological, radiographic and fluoroscopic service in charge of trained technicians.

The establishment of such a hospital, it is pointed out, means that the sick will get well quicker and that the lives of some patients will be saved where it would be impossible without such equipment.

Sister Mary Ursula, R.N., of Dubuque, but who spent several years in the Mercy Hospital in Clinton, was given a great honor recently in Dubuque when she was chosen superior of the Mercy order, succeeding Mother Pius. Sister Mary Ursula, who is a former DeWitt girl, will have under her supervision twelve hospitals and has for the last six years been superintendent of nurses' superior at Ann Arbor, Michigan.

Miss Carrie Propp, a trained nurse of Hamburg, who is to build a hospital in Hamburg, let the contract to Zutz & Zutz, contractors of Hamburg.

The Mary Frances Skiff Memorial Hospital, Newton, was dedicated with appropriate ceremonies Monday morning, May 2, at 10 o'clock. V. W. Skiff, pre-

sented building to trustees. Dr. Williams made acceptance speech. The building is open for inspection of public.

The second annual graduation exercises of the Mercy Hospital Training School for Nurses were held recently in the auditorium at Powers-court, Anamosa.

At the recent meeting of the medical and dental staff of Finley Hospital, Dr. H. B. Gratiot and Dr. L. H. Fritz of the hospital laboratory committee, announced that the negotiations to bring Dr. F. P. McNamarra to Dubuque had been successful. Dr. McNamarra will take charge of the Pathological Laboratory of Finley Hospital about July 1.

Those of the medical profession in Dubuque and throughout this section of the country are deeply interested in the announcement of Dr. McNamarra's coming, as it will assure for Dubuque one of the best pathological laboratories in the country. Several large cities were after him, but Dubuque won out. Pathologists of high standing are in great demand at the present time, and the announcement has aroused considerable enthusiasm in medical circles.

Dr. McNamarra is a graduate of the Harvard medical school. In 1918, he became assistant in pathology and bacteriology to Dr. M. C. Winternitz, formerly of Johns Hopkins University, which he left to become dean of the Yale medical school.

Dr. McNamarra is at present instructor in pathology and bacteriology in the Anthony Brady Memorial laboratory of Yale University and is also assistant resident pathologist in the New Haven Hospital of the Yale Medical School. He was also city pathologist for the City of New Haven.

Hotel Colfax, the big mineral springs resort a mile east of Colfax has been leased by the government for a period of ten years to be used as a hospital for ex-service men. The government pays \$45,000 a year for a period of ten years for the use of it, after which the government may purchase it.

PERSONAL MENTION

Dr. H. L. Wyatt, who served during the war in the U. S. Navy, and who was placed on the reserve list after the armistice was signed, has been called into service and will report to his ship, the Alert, at San Diego, California, in a short time.

Dr. and Mrs. D. Sickler leave in a couple of weeks for the East. They will visit at the Doctor's old home New York state and not return to their home in Ogden for two or three months.

Miss Helen Brockman, daughter of Dr. D. C. Brockman, prominent Ottumwa surgeon, is well on the way toward achieving prominence as an x-ray technician. It is only seven years since she began her studies in x-ray work under Dr. Trostler, famous Chicago technician, but she has already won wide-

spread recognition among those who are familiar with this line of activity. After finishing her course under Dr. Trostler, Miss Brockman was employed by the Victor Ray Corporation. Following the sale of a machine to a doctor, she would be sent out to install the machine and would spend two months in instructing the buyer. Miss Brockman is now located in Mason City, where she does x-ray work with four doctors who are associated in a clinic. Another daughter of Dr. Brockman, Miss Hilda Brockman, took up nursing as a profession. She was stationed during the World War at Camp Pike, Arkansas. She is now taking a post-graduate nursing course in Columbia University at New York City. During the summer vacation she is to have charge of a Y. W. C. A. camp on Long Island. Her younger sister, Ruth Brockman is the matron of Altoona hall at Cornell College at Mt. Vernon, where Dr. Brockman's fourth daughter, Louise, has occupied a similar position in Bowman hall until very recently.

Dr. Ira N. Crow of Iowa City, who for six years was a member of the faculty of the State University Medical College, has decided to locate in Fairfield for the practice of his profession—the specialty of eye, ear, nose and throat. Dr. Crow left the university at the beginning of the war, volunteered and went to France with Hospital Unit R. He was for a time detached from Unit R and sent to the front where he was wounded in action, being the only member of Unit R, who was wounded in battle.

Dr. B. H. Criley arrived recently from Los Angeles, for a visit at the old home, combining business with pleasure we expect. The Doctor never wore a healthier glow on his cheeks and he says he is feeling as fine as he looks.

Dr. O. C. Morrison will be one of the principal speakers on a program at Pittsburgh, Pennsylvania. The Carroll doctor, who has become so well known in circles of railway surgeons, has been asked to read a paper before a large meeting of surgeons of the Pennsylvania railroad system.

Dr. Walter William Daut of Muscatine, formerly of Iowa City, was re-elected city health physician by the board of health of the Pearl City. He is an alumnus of the University of Iowa College of Liberal Arts and Medicine, Class of 1915.

Dr. C. P. Frantz had a good hunch recently and played it. It was late in the afternoon when he insured his car with the Wesner Insurance Agency and a few hours later the hood and motor meter were stolen. The matter was adjusted on the following day.

Joseph and James Priestley, grandsons of Dr. and Mrs. J. T. Priestley, who are students at the University of Pennsylvania, plan to spend the summer vacation in Europe. They will sail from New York June 16 for Naples, and will tour Italy, Switzerland, France, Holland and England, returning to the United States about September 1. Mrs. J. T. Priestley will leave Saturday evening for Philadelphia for a visit with the young men before their departure.

Before returning Mrs. Priestley will go to New York City.

Dr. George Braunlict of Davenport has been appointed county physician of Scott county.

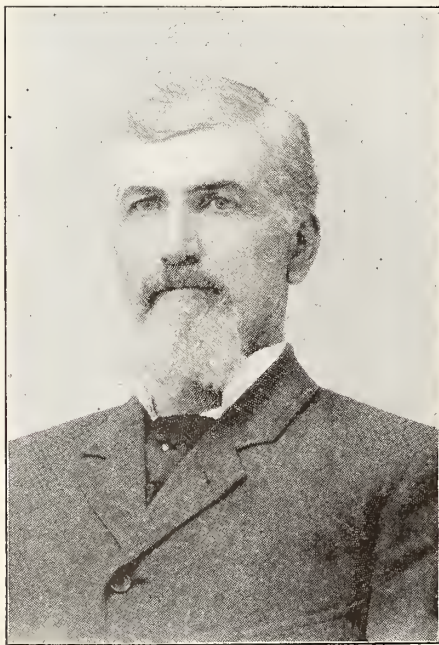
Dr. Paul A. White of Aberdeen, South Dakota, formerly of Rochester, Minnesota, will become affiliated with Dr. W. L. Allen of Davenport.

Dr. E. C. Junger of Soldier was recently operated upon by Dr. Donald Macrea at the Jennie Edmundson Hospital, Council Bluffs for gall-stones. It appears that Dr. Junger has suffered sometime from this disease and finally consented to have his gall-bladder removed.

OBITUARY

Dr. William Samuel Grimes was born in Pocahontas County, West Virginia, May 20, 1842, and died at his home in Wapello, Iowa, June 7, 1921, aged seventy-eight years and seventeen days. When only nineteen years of age he enlisted in the Confederate Army at the beginning of the Civil War and served to its close.

In 1867 he removed to Iowa, took collegiate work at the State University for two years and graduated



DR. WILLIAM SAMUEL GRIMES

in medicine at Rush Medical in 1874. He also took post-graduate work at the same institution in 1887. He practiced his profession in Wapello, Iowa, for forty-five years.

Dr. Grimes joined the Iowa State Medical Society in 1885 and took an active part in its work till failing health prevented; and continued a member till the time of his death. He also was a member for many years of the A. M. A., the Southeastern Iowa and the Louisa County Societies. In both the latter he served as president. He was a member of the A. F.

and A. M. O. E. S. the I. O. O. F. and Rebekah lodges.

Dr. Grimes was well known in his own locality as the friend of the young doctor, and was highly esteemed by all who knew him.

Dr. D. S. Tiffany died at his home in Waterloo, June 1, 1921.

Dr. Tiffany was born December 14, 1860, at Stockton, Illinois. Received his education in the schools of his home town. Graduated from Rush Medical College, Chicago. He located in practice at Keota, Iowa, later moving to Chicago. He came to Waterloo sixteen years ago.

Dr. E. D. Beauchamp was born July 31, 1858, on a farm near Pulaski, Iowa, and was the fourth son of Levi and Mary Jane Beauchamp. He died at his home in Bloomfield, Iowa, April 11, 1921.

He left surviving him his widow, Anna May and two children, R. Clarence Beauchamp of Hollywood, California, and M. Fay Geurnsey of 1138 Linda Vista Terris, Los Angeles, California.

His mother, Mary Jane Beauchamp, now resides in Pulaski, his father and one brother, Will Beauchamp, having departed this life shortly before he did.

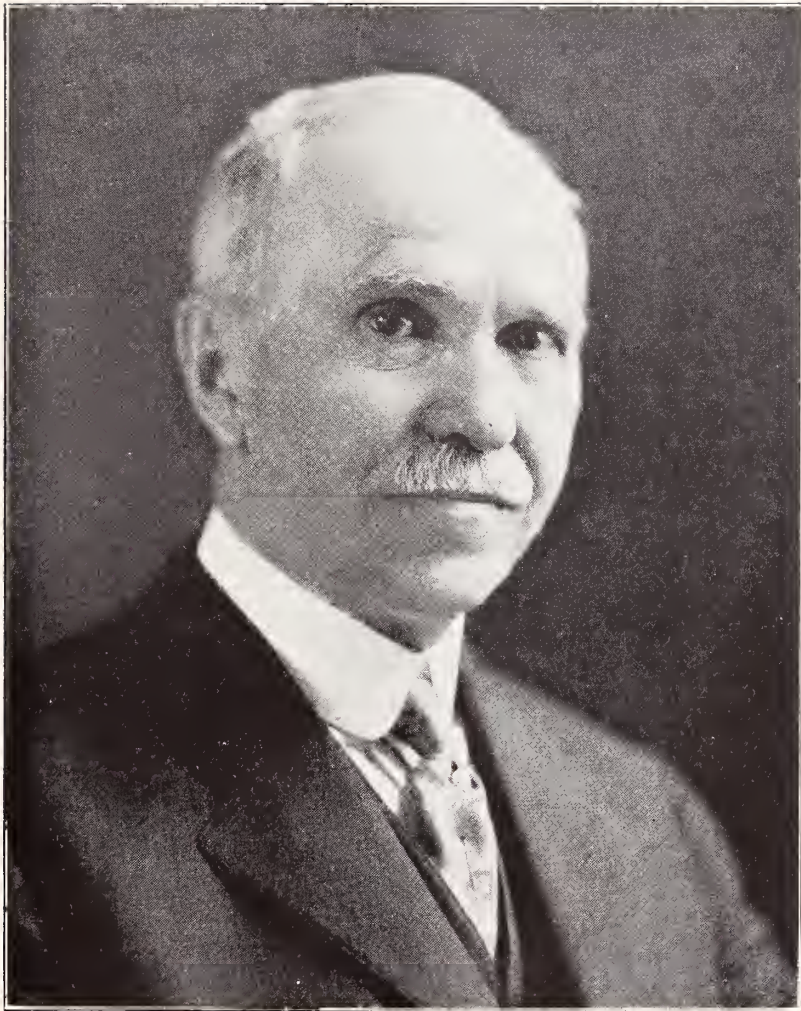
Of his father's family of nine children the following survive him: Dr. Joseph W. Beauchamp, Bedford, Iowa; James H. Beauchamp, Caldwell, Idaho; Robert S. Beauchamp, Emma J. Beauchamp, Sarah Elizabeth Mathews and L. Frank Beauchamp, all of Pulaski, Iowa, and Charles E. Beauchamp of Bloomfield, Iowa.

Dr. E. D. Beauchamp was a graduate of the Keokuk Medical College and began the practice of medicine at Pulaski, Iowa. He took a medical post-graduate course in New York City and worked for some time in Bellevue Hospital. He married Anna May Shelton, daughter of Dr. W. H. Shelton of Pulaski, Iowa, July 13, 1887, and in 1888 came to Bloomfield where he has remained in the active practice of medicine and surgery up to his death.

Dr. W. B. Graham of Waterloo, pioneer physician in Iowa, died recently at the Methodist Hospital following an extended illness.

He is survived by a wife and three children, Richard M. Graham of Chicago, and the Misses Margery and Nancy Graham of Waterloo. Funeral services were held in Waterloo.

Dr. E. R. Hutchins, former Des Moines physician, who with his daughter has been operating a hotel at Lake Okoboji, died Wednesday, May 25. He was eighty years old. The doctor was at one time a professor in Jefferson Medical College, Philadelphia, professor chemistry Iowa State College, Ames, and practiced in Des Moines after coming West. After his retirement he had charge of the business women's home on Pleasant street. He was a lifelong repub-



DR. JOHN M. KNOTT

Born 1846, Died 1921

lican. Many years ago he was prominent in local politics.

Dr. J. M. Knott, seventy-five years old, one of the oldest physicians in Sioux City is dead. Announcement of his death at Los Angeles, at the home of his daughter, Mrs. Frank P. Clarkson, was received in Sioux City recently. He died of angina pectoris. He was a practicing physician in Sioux City more than forty years.

He had been in failing health for the last five years, going to California slightly more than a year ago in an effort to regain his health. During the last four weeks of his illness he had been confined to his bed.

He was born at Clifton, Ohio, March 5, 1846. At the age of seventeen years, while studying for the medical profession, he gave up his studies to enlist in the Union Army. He joined the 153d Ohio Infantry and upon being transferred to the 186th Ohio Infantry, he was commissioned a captain. He served two years in the Civil War.

When he was mustered out, in 1865, he entered George Washington University at Washington, D. C., being graduated from that institution with the class of 1870. In the same year he married Miss Caroline Van Buren a descendant of President Van Buren.

He practiced at Joliet, Ohio, for two years and on the afternoon of March 8, 1872, he arrived in Sioux City. The town at that time had only 3,500 people. There were only two railroads, and travel was difficult. Hardships the veteran physician encountered during the early days have oftentimes been recalled by old time residents.

Dr. Knott had a horse and buggy. Over miles and miles of rough roads, through all kinds of weather, he went to help the sick. When he arrived in Sioux City he formed a partnership with Dr. George W. Beggs, at that time the oldest physician in Sioux City.

On March 3, 1920, two months before he went West, the Sioux Valley Medical Association tendered Dr. Knott a farewell banquet as a token of esteem for the invaluable services he rendered to the community in the early days. Besides the Sioux Valley Medical Association, he was a member of the Iowa State Medical Society and the American Medical Association. He was one of the best known physicians in the Middle West.

Since his seventieth birthday, his health started to decline. He had oftentimes said, while a young man, that when one has reached "three score and ten," his work on earth is done. His wife died in Sioux City in 1916. They lived at 910 Jackson street for more than thirty years.

Surviving him are two sons, Dr. Van Buren Knott, formerly of Sioux City, and Dr. Fred Knott of St. Louis, Missouri, and two daughters, Mrs. Clarkson of Los Angeles and Mrs. Harve Badgerow of Chicago.

MARRIAGES

Dr. John Russell was married to Miss Sadie Ann Caquelin, graduate nurse of Iowa Congregational Hospital, at Omaha, Thursday evening, May 12.

Dr. Carl G. Bretthauer and Miss Muriel Amish were married at Des Moines, April 14, 1921. Dr. Bretthauer will locate in Boone and become assistant to Dr. L. A. Bassett.

Dr. C. H. Dewey of Des Moines and Miss Edna Thompson of Des Moines. Major Dewey entered the U. S. Medical Service as a lieutenant, went overseas with the Three Hundred Fifty-Second Ambulance Company. Was made director of the Eighty-eighth Division and was later transferred to the First Division as Sanitary Inspector. Returned to the United States as Division Surgeon of the First Division.

Dr. Thomas H. Van Camp and Miss Media A. Dierf, both of Somers, Iowa, June 15, 1921.

BOOK REVIEWS

GYNECOLOGY

By Brooke M. Anspach, M.D., Associate in Gynecology, University of Pennsylvania. With an Introduction by John G. Clark; 752 pages and 526 Illustrations. J. B. Lippincott Company, Philadelphia and London. Price \$9.00.

Dr. Clark in introducing this book to the profession calls attention to the ample references which are so arranged as not to burden the reader and which are placed at the end of the chapter to be consulted by the reader or not, as suit his convenience, a fact to be commended.

The first four chapters are devoted to embryologic, anatomic and physiologic considerations. A short chapter is given to the causes of pelvic disorders. Chapter six considers history-taking and symptomatology. Chapters seven and eight to General Physical Examination, and Examinations of the Pelvis and Abdomen, illustrated by many excellent cuts, and chapters nine and ten to Examinations of the Urinary Organs, the Anus and Rectum. These chapters prepare the reader to consider diseases of the different organs. First comes diseases of the external genitalia and the vagina which are so important to the general practitioner who is often consulted for troublesome external conditions. Injuries to the Perineum and their results appear in their right place, at the beginning of gynecologic conditions, which have so important a bearing on the common welfare of the woman. The methods of restoration are presented by a description of methods and by illustrations. An excellent chapter is given on Diseases of the Cervix. Chapter fifteen presents an interesting discussion on Changes in Form and Position of the Uterus. This is a subject that is not as well understood by the occasional surgeon as it

should be; it is here that much bad and unnecessary surgery is done. A consideration of this chapter will give material aid in determining what should be done if surgical intervention is needed. Four chapters follow in the discussion of tumors of the Uterus and Ovaries, well written, and well illustrated, which will appeal to the surgeon. The operative procedures are well planned, simple and efficient in character; the methods employed by Dr. Anspach. The references at the end of the chapters will direct the operator to other contributors. An important chapter precedes the chapter on Tumors, viz.: a chapter on Diseases of the Endometrium and Myometrium which is of peculiar interest to the general practitioner.

Chapter twenty-one relates to Pelvic Inflammatory Diseases and is important because it appeals to the general practitioner and to the general surgeon who is generally first called. Both acute and chronic diseases are considered, and the approved medical and surgical procedures pointed out. We have read this chapter with care and have been impressed with the clearness and the efficiency of the author's work. The same may be said of the following four chapters, including Diseases of the Urethra, Bladder, Ureters and Kidneys. The latter is important particularly because of the difficulties of accurate diagnosis and the necessity of a wise and mature judgment in selecting measures of treatment.

The remaining chapters are devoted to the consideration of the Diseases of the Abdominal Viscera Related to, or Associated with, Pelvic Disorders and to Operative Technic. This section includes a wide range of subjects as indicated by the leading title. The reader will not be disappointed in looking for guidance of an authoritative character in any gynecologic condition that may arise in his practice. It is the wide range of subjects that constitute one of the special merits of the book. There is a general agreement among our gynecologic writers on methods of treatment. In this particular instance, the writer has a full conception of what the active practitioner wants and we feel that he has furnished it.

A TEXT-BOOK OF PATHOLOGY

By William G. MacCallum, M.D., Professor of Pathology and Bacteriology, Johns Hopkins University; Second Edition, Thoroughly Revised, Octavo Volume of 1155 Pages, with 575 Original Illustrations. W. B. Saunders Company, 1920. Cloth \$10.00 Net.

The first edition of this work appeared four years ago, but the conditions incident to the war have brought to the pathologist many things which appear to demand a new edition with the addition of 100 pages, and the rewriting of some chapters. Infection diseases, poisonous gases, animal parasitism and the results of malnutrition are diseases, or conditions which have called for new chapters, or for the re-

writing of chapters, to bring us to an understanding of an almost new pathology. There are other sections treating of changed views which need like treatment; conditions of shock, acid-base equilibrium, hydrocephalus, immunity in tuberculosis, meningial infections, pneumonia after measles, influenza, cholera, leprosy and parasitic disease, all have been studied under conditions that have been strange to us heretofore.

Forms of disease with which we are familiar have been studied from a different point of view. From chapter fifteen to chapter forty-seven, each title is: Injury with Inflammatory Reaction and Attempted Repair, commencing with Nephritis, the author compares the disease known as Bright's disease to cirrhosis of the liver which may be the "result of oft-repeated or constantly acting injuries rather than of a single one," and followed by inflammation and attempted repair. The injury may be of different kinds, as infections and intoxications—not necessarily traumatic—followed by inflammatory reactions varying in anatomical results. Arteriosclerosis is another disease in which the inflammatory reaction and attempted repair leads to changes in the aorta and the finer ramifying arteries. Included, are physical and mechanical injury as in diseases of bone, also chemical injuries.

Without reviewing in detail the various types of diseases and different types of injury we have as a fundamental basis; injury, which may be infection, intoxication; physical and mechanical, chemical, bacteriological with inflammatory reaction and attempts at repair. Under this head may be enumerated; nephritis, injury and repair of the liver; arteriosclerosis, physical and mechanical injuries; chemical injuries; obstruction of the various tracts; bacterial diseases; spirochaetal diseases; exanthematic diseases; parasitic diseases; injuries to the blood and blood-forming organs, organs of internal secretions. The pathological activities and changes induced by the frequently or constantly repeated injuries are apparently determined by the nature of the irritating agent, poison or infection, reactions, attempts at repair and the damage therefrom constitute an interesting and attractive method of study.

The last ten pages are devoted to the study of tumors, including those of a benign and malignant character.

THE SURGICAL CLINICS OF NORTH AMERICA

Number One of Volume One (Philadelphia No.). Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London, February, 1921.

The appearance of number one of the new series of clinics is introduced by Dr. W. W. Keen in some observations on the clinical instruction given at Jefferson, the University and the Old Pennsylvania Hospital amphitheater when he entered as a medical student in 1860-62.

The plan while not materially different from the Surgical Clinics of Chicago is much better arranged and more extended; it does not appear quite as much like a student clinic.

Dr. John B. Deaver presents a discussion on Pancreatitis that extends to thirty-five pages and appears as a serious consideration of the whole subject. Following is a short presentation of Hydated Cyst of the Liver. A fuller consideration of Paget's Disease of the Bones, Fracture of the Skull, Pulsating Central Sarcoma of the Humerus by Dr. J. Chalmers Da Costa.

Dr. John G. Clark presents a finely illustrated paper on Prolapsus Uteri, and Dr. Charles H. Frazer a clinical lecture on Trigeminal Neuralgia fully illustrated. Dr. Astley P. C. Ashurst considers several subjects including about sixty pages. Dr. John H. Gibbon a clinic on Amputation of the Breast for Cancer. Dr. Charles F. Nassau on Epithelioma of the Lip. Dr. T. Turner Thomas and Dr. John H. Jopsom on Treatment of Fractures.

We feel quite sure the profession will welcome the new series of clinical lectures. The first being the clinics of John B. Murphy, the second the surgical clinics of Chicago. Each had its merits, but there was a growing feeling that the second series bore too much the characters of a students' series. The paper and the illustrations show a high degree of mechanical excellence.

SURGICAL CLINICS OF CHICAGO

Volume 4, No. 6, Octavo of 1336 Pages; 57 Illustrations and Complete Index to Volume 4. W. B. Saunders Company, December, 1920; Published Bi-Monthly. Price Per Year, Paper \$12.00, Cloth \$16.00.

Dr. A. D. Bevan presents an interesting clinic including a case of Hypernephroma which, while better known than formerly, still presents features of interest.

Dr. Kellogg Speed illustrates a method of tendon transplantation for wrist-drop. A particularly interesting clinic is by Dr. Allen B. Kanavel on the after-treatment of infections of the hand. These cases are of special importance to the general surgeon.

Dr. D. N. Eisendrath presents types of pyelitis of pregnancy and the puerperium, which are of particular importance to the obstetrician. There are altogether nineteen clinics presenting a considerable variety of cases affording hints in the diagnosis and treatment of surgical cases as they occur in practice.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1920. Price, Postpaid, \$1.00; 72 Pages; Chicago: American Medical Association, 1921.

While New and Non-Official Remedies consists in part of descriptions of those proprietary medicines

which the Council deemed worthy of consideration by the medical profession, the annual reports of the Council on Pharmacy and Chemistry describe the preparations which the Council finds unworthy of recognition. In addition, these annual reports contain other announcements of the Council.

The present volume contains a number of interesting reports. Thus we find a statement which makes it clear that many of the large pharmaceutical houses are definitely opposed to the work of the Council and will remain antagonistic until a very large proportion of the medical profession will give the Council their active support. The volume also contains a report on some digitalis preparations which the Council examined and declared to be pharmacopial digitalis products and therefore do not require the control of the Council.

Of the reports on proprietary medicines found unacceptable for New and Non-Official Remedies there are reports on the following which, because of the publicity given the products by their exploiters, will be of special interest to physicians: Platt's Chlorides, Syrup Leptinol (formerly Syrup Balsamea), Sukro-Serum, Spiroside, Libradol, Supsalvs.

Of considerable interest are reports on a number of products which were admitted to New and Non-Official Remedies on the basis of evidence which at the time seemed to indicate the products to have therapeutic merit, but which did not stand the test of time and which therefore have been omitted from the 1921 edition of New and Non-Official Remedies. These reports give evidence that great care is taken to keep New and Non-Official Remedies up to date. Those who are not familiar with the methods of the Council in the examination of new medicaments or who may even have been inclined to look upon the acceptance or rejection of a medicament by the Council as a somewhat perfunctory procedure, should read the report of "Chloryptus"—a chlorinated eucalyptus oil. Its proprietor believed it to be a most efficient wound antiseptic. He presented to the Council many lengthy reports of laboratory tests and of clinical trial. The Council found the evidence inconclusive and refused recognition to the product. The discoverer of chloryptus apparently has accepted the conclusion of the Council—at all events it is not being pushed—and thus many a physician is spared the temptation of experimenting with a new drug which in the end will but add to his long list of medicaments which have been tried and found wanting.

HYGIENE OF COMMUNICABLE DISEASES

By Francis M. Munson, M.D., Lieut. M.C., U. S. N. Ret. Lecturer on Hygiene and Instructor in Military Surgery at Georgetown University. Published by Paul Hoeber, New York; Illustrated. Price \$5.00.

This volume is divided into two general sections, the first dealing with Epidemiology, Prophylaxis, and Sanitation; the second, with the Communicable Dis-

eases in their several classifications as to mode of distribution.

In Part I the author considers the Causes of Communicable Diseases, their predisposing conditions, remote and immediate, and the exciting and biological causes. An interesting chapter follows on Infection and Immunity, giving a clear idea of how infection is produced in man, and the theories as to production and maintenance of immunity to disease, both general and specific. The methods of dissemination of the communicable diseases are briefly outlined, properly preceding a chapter on General Prophylaxis.

Succeeding chapters treat of Disinfection, Insecticides, Personal Hygiene, Hospitals, Isolation, Quarantine, and Sanitation, as applied to distinct and separate situations, such as military, naval, railway, municipal, rural, school, prison, industrial and exotic, the last named dealing with the distinctive problems encountered in arctic and tropical conditions.

A new subject in works of this character is that of Sanitary Measures following Great Disasters, such as floods, earthquakes, tornadoes, etc., and deserves special attention from the reader.

Sanitary administration is the subject of the last chapter in part I, and contains an idea suggestive of the necessity for those concerned in public health work to be well and accurately informed upon this subject, because where formerly the popular fear of epidemic disease lead to the granting of extreme and autocratic powers, especially in crises, the tendency at present, probably because of more general information and more exact sanitary science is, "to define the powers of health authorities more exactly, and to confine them within closer limits."

Part II dealing with the classes of communicable diseases as, Fecal-borne, Insect-borne, etc., is comparatively short but presents the subject matter in a concise form, with the directions for the control of each disease.

The book while small, and easy to handle, contains over 700 pages and is printed in a small but legible type, containing a surprising amount of information. The author states his free use of all available sources of information in the compiling of his book, and appends a long list of references. The index is not the least valuable part of such a work and is complete. The book contains much material not ordinarily found in work on hygiene and sanitation, and is recommended for careful reading as well as for use as occasion arises as a ready book of reference.—Major H. R. Reynolds, Surgeon U. S. Public Health Service.

KEEN'S SURGERY

Volume Seven. By Surgical Experts, Edited by W. W. Keen, M.D., L.L.D., Hon. F.R.C.S., Eng., and Edn. Emeritus Professor of the Principles of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia. Octavo of 855 Pages with 359 Il-

lustrations, 17 of Them in Colors, 1921. W. B. Saunders Company.

The six volumes of Keen's Surgery brought the science and art of surgery up to 1913, or to the beginning of the World War, when a new era in surgery commenced. The discoveries of Pasteur and Lister had established the fundamentals of surgery, but surgeons learned very early in the war that there was much lacking; that the antiseptic treatment we had come to rely upon was quite inadequate to meet the conditions. The surgeons of the allied armies at least, were almost unprepared to deal with the infection of wounds as they appeared in the early days of the war. The devitalization of tissue from high explosives provided fields for violent infection which could only be destroyed by debridement, provisions for drainage and new antiseptics, and new application of antiseptics.

It may not be said, however, that the principles of surgery in civil life have been materially changed, except perhaps in surgical infections, the surgery of war has undergone a most radical change. Dr. Keen therefore has extended his great system of surgery by adding volume seven devoted to the surgery of war, much of which relates to conditions in civil life, especially to industrial surgery. To present military surgery in all its relations, Dr. Keen has enlisted experts in different fields who had extensive service and whose reputation would carry the weight of authority from their previous contributions to surgical science. The first chapter is contributed by Professor Adami, formerly of McGill University at Montreal, now of the University of Liverpool. Prof. Adami reviews the subject of bacteriology especially from the standpoint of the vast studies carried on in the laboratories in the home countries. Space will only permit us to mention subjects directly relating to military affairs. Gas gangrene met with occasionally in civil practice was frequent with soldiers in the early period of the war, but became less frequent as better treatment of wounds was developed, and more efficient and early means of gathering and transporting. This chapter was prepared by Sir Cuthbert Wallace of London.

Chapters eight and nine treat of the organization and administration of the medical department of the United States Army and Navy. The first by Col. Bailey K. Asford, with the assistance of Col. D. S. Fairchild, chief surgeon of 42nd Division, and Col. Ralph S. Porter, chief surgeon, 26th Division; and of the Navy by Captain Wm. H. Bell of the U. S. Navy. These are the longest chapters in the book and include 137 pages and refer to organization and administration based on the experience gained in the late war which means of course, an almost complete revision of past organization and administration. These chapters are well illustrated with cuts and diagrams. The plans are worked out in much detail.

Surgery in a Fighting Ship, is written by Surgeon Lieutenant Commander Horace E. R. Stephens, F.R.C.S., R.H., Plymouth, England. Prior to this war,

there was little to guide the naval surgeon in preparing for the things that might happen in the different classes of fighting ships and the enormous long range naval guns, and the torpedo. There is something frightful in the experiences of men on a great fighting ship; from the great guns fired; the high explosive shells, and the torpedo. The problems of the surgeons are indeed great. This chapter and the two preceding are in fact largely new matter.

The chapter following, Traumatic Shock prepared by Professor Walter B. Cannon of Boston includes the vast experience gained by him and other American observers, as well as by English and French observers during the war. This chapter gives us the last word on shock as seen in war and in the industries. This chapter is supplemented by a chapter on Traumatic Hysteria including so-called Shell Shock, by Dr. Durcum of Philadelphia.

A subject which the war gave a great opportunity to study was transfusion in acute anemia from hemorrhage. This is largely a war problem in view of the fact that organization is essential to success and can be carried out only in a well organized hospital. Dr. Burton J. Lee of New York has presented in considerable detail the technic of this procedure.

The bacteriology of war wounds and the treatment of infected wounds includes considerable space and is of great importance in both military and civil practice. It was found in the early days of the war that our methods were inadequate and the pressing needs in the care of wounded soldiers brought to the front the best trained men of Europe and America, and by intensive work and study several methods lessened the mortality from infected wounds. It is plain from observing the treatment of infected wounds in civil life in many hospitals and in discussions, that the principles worked out by surgeons during the war have not found lodgment in the minds of many surgeons; so much is one impressed by the fact, that the two chapters devoted to this subject should be pondered over, especially is this true of the Carrel-Dakin method.

The chapters on Fractures by Drs. Eisendrath, Straus and Joseph A. Blake which include eighty-five pages, present the subject of fractures as they occur in civil and military practice, in a highly interesting and instructive manner; especially chapter seventeen, by Dr. Blake, whose vast experience carries the weight of authority. Dr. Wm. B. Cadwalader of Philadelphia writes the chapter on the Pathology of Gunshot Wounds and other severe injuries of the Nervous System, and injuries of the Spine and Spinal Cord, by Sir William Thorburn of Manchester, who has had exceptional experience in this line of practice.

The military treatment of injuries of the joints received important modifications during the war; on this subject Dr. E. H. Pool of New York writes the chapter, and Dr. Robert W. Lovett of Boston, the chapter on Orthopedic Surgery in Civil Life. The chapter on Military Orthopedic is written by Sir

Robert Jones of Liverpool and E. W. Hey Groves of Bristol. This chapter is really a treatise on Orthopedic Surgery, particularly relating to the conditions of war, but having a relation to civil practice in so far as industrial practice is concerned, which in many respects is not far removed from military surgery.

The last chapter in this important work is devoted to Military Surgery of the Vascular System and is written by that master in this branch of surgery, Dr. Rudolph Matas of New Orleans.

It is difficult to sufficiently appreciate the value of this book, all the chapters of which are written by masters in the several branches of surgery.

THE ROENTGEN DIAGNOSIS OF DISEASES OF THE ALIMENTARY CANAL

By Russell D. Carmen, M.D., Head of Section of Roentgenology in the Division of Medicine, Mayo Clinic, and Professor of Roentgenology, Graduate School of Medicine, University of Minnesota. Second Edition; Thoroughly Revised. Octavo of 676 Pages, with 626 Original Illustrations. W. B. Saunders Company, 1920. Cloth \$8.50.

Roentgenology has become so fully recognized in the study of diseases of the alimentary canal that no serious inquiry may be considered complete without a roentgen examination, and so rapidly has this method of study advanced that frequent revised editions of works treating of the subject become necessary.

Three years ago Professor Carmen brought out the first edition of his book on Roentgen Diagnosis of the Alimentary Canal. The extraordinary opportunities presented at the Mayo Clinic gives Carmen's work the weight of authority and the book will be studied with the greatest interest. We have now so many well organized clinics that today there are many roentgenologists with expert knowledge who will welcome the appearance of the second edition which presents some new features. Two new chapters appear in this edition, one, on hour glass stomach, and the other, a chronologic abstract on the published work on pneumoperitoneal diagnosis of abdominal lesions. The author has also revised all the chapters bringing them up to date. This is an important fact, in that roentgenology has become a very progressive science, and the three-year period has seen many changes, not only in new apparatus and new methods, but in interpretation also.

A book of this character must carry a large number of illustrations and, to be of value, a high degree of artistic skill is necessary, and the paper of high quality. The publishers are entitled to great credit for the care displayed in the mechanical work. To make the book complete, equal care is exhibited in the references for which Mrs. Mellish is largely responsible.

REFRACTION AND MOTILITY OF THE EYE

By Ellice M. Alger, M.D., F.A.C.S., Professor of Ophthalmology, New York. Post-Graduate of Medical School. Cloth Price \$2.50. F. A. Davis & Co., Philadelphia, 1920.

This little book has been reprinted a number of times without change since its first appearance, but the recent remarkable recrudescence of interest in ophthalmology has made another edition desirable. This contains 395 pages with 125 illustrations with many changes and additions.

The author quite properly begins his book with a chapter of thirty-six pages on optics. Chapter two contains a brief review of the essentials of anatomy of the eye and a short discussion of physiological optics. This is followed by chapters on Retinoscopy, The Pupil, Cycloplegics, Miotics, Static Refraction, Hyperopia, Myopia, Astigmatism, Presbyopia, Binocular Vision, Normal Motility, Heterophoria, Ocular Paralysis, Color Blindness and the Field of Vision. The book closes with a discussion of the relation of functional eye diseases to general medicine.

The busy physician or the undergraduate desiring a rapid survey of the subject may find it here, treated in quite an elementary though on the whole, satisfactory manner. It is not an exhaustive treatise, being designed to meet the needs of the general practitioner and the embryo ophthalmologist.

E. P. Weih.

ANATOMY OF THE NERVOUS SYSTEM
FROM THE STANDPOINT OF DEVELOPMENT AND FUNCTION

By Stephen W. Ransom, M.D., Ph.D., Professor of Anatomy in Northwestern University Medical School, Chicago. Octavo Volume of 395 Pages, with 260 Illustrations, Some of Them in Colors. W. B. Saunders Company, 1920. Cloth \$6.50 Net.

The author informs us that "during the past twenty years very considerable additions have been made to the science of neurology." To add to the interest of the student in a difficult branch of anatomy, he is led "to think of the nervous system in its relation to the rest of the living organism."

In the first chapter, the two fundamental properties of protoplasm—irritability and conductivity—are considered, and reach their maximum development in the highly differentiated tissue of the nervous system.

Passing to chapter two, the infolding of the neural tube, in the vertebrate nervous system, from the thickened plate of ectoderm along the mid dorsal line of the embryo, is described with the differentiation of the progressively higher centers of the nervous system.

In chapter third the histogenesis of the neural tube is taken up, followed in chapter four with a consideration of nervous and neuron-chains.

Chapter five relates to the subdivisions of the nervous system, the central nervous system and the peripheral nervous system. The spinal cord is the subject of discussion in chapters six and seven, including the arrangement of the spinal gray matter, the white columns, and the fiber tracts. Included in this discussion are the functions of the cord.

The four succeeding chapters considers the General Topography of the Brain, the external Form of the Medulla, Pons, and Mesencephalon. This is taken up in a synthetic manner in the order stated so that the student passes from the less to the more complex in the central nervous system. The connecting and association tracts and nuclei are described.

Chapter twelve considers the cranial nerves and their nuclei. This chapter shows the special somatic and visceral components which supply the organs of special sense and the visceral musculature derived from branchial arches. This is a complex subject but essential to an understanding of a highly important part of the nervous system.

The Cerebellum is the subject of chapter thirteen. The Diencephalon and the Optic Nerve of chapter fourteen.

The External and Internal Configuration of the Cerebral Hemisphere is considered in two chapters. This subject, always difficult, is presented in a clear and concise manner, and with the aid of many illustrations may be followed without great difficulty.

The Otic and Olfactory Centers are given considerable attention, particularly the olfactory on account of its great importance in comparative anatomy.

Chapter 18 is given to the Cortex and Medullary Centers of the Cerebral Hemisphere.

The afferent system, the efferent paths and the reflex arcs constitutes the subject of two chapters and the anatomy of sympathetic one chapter.

The book closes with a chapter on Laboratory Outline of Neuro-Anatomy. The anatomy of the nervous system has been a difficult subject for the student of medicine, and for the physician; there is no way of making it easy. The author of this book, however, has contributed much in the arrangement of the subject to carry it forward in a logical manner.

PULMONARY TUBERCULOSIS—WITH CASE HISTORIES

A Handbook for Students and Practitioners. By Edward O. Otis, A.M., M.D., Professor of Pulmonary Diseases and Climatology, Tufts College Medical School, Boston; Second Edition. W. M. Leonard, Boston, Publisher.

In considering the worth of any book, especially one upon a scientific subject, it is well to bear in mind the author's professed object when he sent the

(Continued on Advertising Page xvi)

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BOOK REVIEWS

(Continued from Page 296)

book to press, and to judge whether or not he has succeeded in his endeavor, rather than compare merely size and other points of contrast with the other books upon the same subjects.

The volume in question at this time, is stated by its author, to be, not an exhaustive treatise upon pulmonary tuberculosis, but a manual, a handbook, with many case histories, intended to be of value to those who have not the time to give to the more elaborate consideration of this disease.

Following a chapter on Anatomy and Physiology, we are given a brief history of Tuberculosis, bringing the attention of the reader to the point where Pathology and Bacteriology may be logically studied. Diagnosis is very carefully outlined, as possibly the most important chapter, the author quoting Hamman, "Mistakes are due far more commonly to carelessness than to the difficulty of diagnostic methods." The chapter on Prognosis considers that the nature of the reaction of the patient early shows what may be expected, either a strong resistance which is likely to overcome the invasion, or a lack of resistance which can have but one end, and that the first year of the disease indicates the final result.

The ideas of Dr. Otis upon treatment may perhaps be judged by his quoting at the beginning of this chapter, Dr. Oliver Wendell Holmes, to the effect that it was his belief that the food swallowed and the air breathed were more important than other agents and would be so proven. All methods are considered in detail, both as to the disease in general and as to special symptoms, not forgetting the matter of prophylaxis. A final chapter gives case histories illustrating various phases of the disease, in addition to those in the chapters preceding bearing upon certain points in diagnosis, prognosis, and treatment.

It would appear that the author had attained his object in the production of a medical book helpful to all who read it, and a worthy member of the "Case Book Series" as published by W. M. Leonard, Boston, Massachusetts.—H. R. Reynolds, Surg. U. S. P. H. S.

NEW AND NON-OFFICIAL REMEDIES

During April the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

Armour & Co.:

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During May the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-Official Remedies:

The Gilliland Laboratories:

Acne Mixed Vaccine—Gilliland.

Hoffman-LaRoche Chemical Works:

Pituglandol.

Lederle Antitoxin Laboratories:

Cholera Vaccine (Prophylactic)—Lederle.

Plague Vaccine (Prophylactic)—Lederle.

H. A. Metz Laboratories:

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The Journal of the Iowa State Medical Society

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No. 8

THE THYROID AND ITS DISEASES*

CHARLES H. MAYO, M.D., Rochester, Minnesota

One of the most active and necessary glands in the body is the thyroid. It has the best circulation in the body, twenty-eight times the blood supply that goes to the entire head, thirty-four times the proportion that goes to the brain, and five and one-half times the circulation of the kidney. Nature could not trust a single artery to supply each lobe with blood; she put in two, and gave the gland an excess of blood supply. So we have the thyroid protected to such a degree that it may function throughout life. The child may be born without a thyroid, but it looks like any other child at birth because up to that time it has had an opportunity to secure the necessary hormone from the thyroid of the mother. The child born without a thyroid remains a dwarf, of animal type, with dry skin, dry hair, with failure of growth physically and mentally. But that child can be made to grow by giving it the chemistry that is created by the gland. All the world is run on the basis of chemistry. In the same way each animal cell has its chemical action, and now we have reduced the secretion of several of the structures of the body to a chemical condition so that they can be synthetically produced.

The thyroid is a gland which, because of its subcutaneous location, we know a little more about than we do about the pancreas or the adrenals. We see its enlargements. In the case of the girl as she comes to puberty, in the mother in the course of pregnancy, the thyroid is a little larger; in menstruation even a little more work is thrust upon it. Its normal action is chemical, and only a little material is necessary in order to stimulate activity. A part of any one gland is apparently enough to furnish the necessary amount of secretion, but production of this necessary amount may make the gland overwork. One-half of the thyroid does good work. One-half of one kidney will permit enough filtration

so that we cannot find from a test of the body that the patient has only one-half of one kidney. In the child, the thyroid should have at least one-third of its active cells to give off secretion during the period of growth. The thyroid is rarely destroyed by operation. More commonly the changes taking place through loss of the thyroid are due to disease, such as thyroiditis, an inflammation which gives little evidence of its existence until later in life, but changes occur which are finally identified through loss of the gland secretion. The thyroid in the child is helping to create this growth during a period when the thymus is also furnishing its chemical secretion as a stimulus.

Formerly it was thought that in overworking glands the thymus might be associated with exophthalmic goiter, for a thymus sometimes is found in such cases. More commonly, however, it is not found, or only a vestige of it is found. We have the late Dr. Theodore Kocher to thank for calling attention to the indications, not only for operation, but for the prevention of the loss or injury of the parathyroids, causing tetany.

Dr. Crile believes that iodine deficiency in certain regions of the country has much to do with the development of thyroid over-growth in its tremendous struggle to get the one thing that it needs for normal function. Iodine is present in the gland, as was shown by Baumann, in 1895. Iodine, however, is not essential to the activity of the gland, but does help to activate it more quickly.

In some cases of exophthalmic goiter iodine cannot be found. There is an excessive secretion, without iodine. The gland is slightly larger, is harder, and under the microscope shows more cells. In parts of Canada, parts of Pennsylvania, and regions scattered through the mountainous districts of the West there are many goiter cases. Greenfield, of England, in six cases reported on in 1893, showed that in exophthalmic goiter there is an excess of cells, hyperplasia, and hypertrophy of the cells. Adenoma is the term applied to this condition in most any gland body. We

*Presented at the Sixty-Ninth Annual Session, Iowa State Medical Society, Des Moines, May 12, 13, 14, 1920.

have adenoma of the breast; displaced adenomatous material from the interior of the uterus gives rise to adenoma of the uterus mixed in with the muscle cells. In the thyroid we find adenoma, the kind to which Dr. Plummer has called our attention. If the right stimulus can be applied, the thyroid is constantly ready for growth. In its structure a single layer of columnar cells surrounds the alveoli, and as the thyroid becomes larger with an accumulation of colloid it shows these little drops of colloid passing through the cells into the alveolus. The bulk of the material is given off at the base of the cell into the circulation. The thyroid does not deliver its secretion through the lymphatic system, but there are lymph spaces all through the gland. It delivers through its own venous system.

The thyroid affects metabolism. This was first demonstrated by Magnus-Levy in 1895, whose test showed that persons with exophthalmic goiter were burning more oxygen, and that there was more rapid exchange of the gases of the body than in other persons, unless the latter had fever or some such condition. A few years ago DuBois collected about twenty-six cases from the literature and his studies indicated that the thyroid in its overworked condition causes a more rapid exchange of gases, and that these people were eating ravenously, but by testing the air they took in it was found that they were taking more oxygen out of it, and by testing the expired air it was found they were putting into it more carbon dioxide.

Persons who have myxedema, having lost the thyroid gland, have a temperature of 94, 95 or 96 degrees Fahrenheit, according to the effect produced by loss of the thyroid gland.

Dr. Kendall, of our Clinic, put in seven years of time in an effort to reduce the thyroid gland to its chemical constituents, and finally, in 1914, on Christmas day, he was able to make the final analysis and reduce the thyroid gland to its chemical state. It is true we cannot transplant organs from animal to man because of the blood's incompatibility. We cannot make the tissue of a lower animal grow in man and remain a working structure, and we should not transfer blood from one individual to another unless the bloods are tested. We have, then, generated by these glands, a chemical action that we need. We need carbohydrates and proteins, but each thing is supplied to the type of tissue in the body which needs it, the circulation carrying it and the cells picking it up. The thyroid has to do with the activity. If the thyroid is removed the individual begins to get cold, there is great increase

in weight, he is sluggish mentally and physically; ask him questions and you get delayed answer or perhaps no answer at all; he will look at you stupidly just like the cretin born without a gland.

Dr. Plummer, having analyzed the thyroid, has been able to determine how much thyroid secretion there is in the body, which amounts to 7 mg., and how much there is in the gland, which also amounts to about 7 mg. If 7 mg. is injected into an individual with a temperature of 95 degrees Fahrenheit, dull, stupid, heavy weight, with fat pads over the shoulders, in three days you would not know him—the fat is disappearing, the edema is fading, the appearance of the face is changed. In eleven days, testing the metabolism and the burning every day, he is found to be normal. The effect slowly disappears after that time in about ten days, when he is examined daily. So not only do we know that increase of thyroid secretion increases the metabolism in the body, but after the thyroid is lost we now know for the first time how much thyroid secretion is required to keep up the work and for how many days between doses the case will remain normal.

If thyroid tablets are given to patients with myxedema, most of them are able to absorb them. But those who cannot absorb them must have thyroxin hypodermically. Something goes wrong with these people with goiters in the ability of the intestinal cells to pick out the right chemicals with which to carry on their work. Then come the changes and retention of the colloids and changed secretion. The colloids can be made to disappear by giving thyroxin. If 7 mg. of Kendall's thyroxin is injected into large soft, rather smooth goiters of young people, perhaps seven times the normal size of the gland, the secretion will be reduced and in ten days the goiter will have gone down one-half.

The overworking gland was first described by a Frenchman, Parre, nearly one hundred forty years ago. Many years later it was described by Graves of England as Graves' disease. Later on Basedow also described the condition; therefore the Germans called it Basedow's disease. Then we have pseudo-exophthalmic goiter to which all sorts of appellations have been applied to indicate that the patient had symptoms of exophthalmic goiter so far as the rapidity of pulse, nervousness, loss of weight, excessive metabolism, and so forth were concerned, and yet it was not a true case of exophthalmic goiter. In this country very little has been written on this condition, and yet it represents nearly one-fifth of all the cases of exophthalmic goiter in this or any other country; as a rule this type of goiter

is not quite so dangerous although it appears to be worse. For instance, a patient may have had a goiter for about fourteen years and five months before symptoms due to the degeneration of the adenomatous material begin. At the end of about nineteen years on an average from the time of the development of the goiter, at the age of forty-eight years, the patient comes to the surgeon for relief with the history that the symptoms have been increasing for about five years.

The adenomas are subject to all types of degeneration. It is only the solid forms that can give adenoma with hyperthyroidism. There may be sagging of the lower lid, but this symptom may occur in chronic serious heart conditions, nephritis, syphilis, and so forth. Since 1911 we have separated these cases from the exophthalmic goiters, and during that period about 20 per cent of all the cases observed have been called toxic adenoma, or adenoma with hyperthyroidism.

What, then, is there about the degenerating adenomas that can produce a toxic condition of the body? Mitochondria was brought out by Bensley years ago in working on the thyroid of the opossum. Recently Goetsch has been working on the thyroid of man and has shown that in these adenomas there is a mitochondria of the single cell. The condition of mitochondria has been studied by a good many observers. It is the most difficult work in the laboratory, for it takes many days to work out the stains of the single cell. It is good to work on until you have proved the condition, but not easy like showing the work in hyperthyroidism where you merely have to demonstrate hypertrophy and hyperplasia of the cell. In the case of mitochondria, we do not know whether it represents cell proliferation or activity, but we have taken it for granted that it is but an over-active cell in the adenoma, indicating cell activity.

On an average, patients with exophthalmic goiter come for treatment between the ages of thirty-one and thirty-six. The history is that they have had a goiter for three months, when in 50 per cent of cases exophthalmos develops, and in 90 per cent within two years. The patient with adenoma with hyperthyroidism has also rapid heart, trembling, weakness, myocarditis, irregular pulse, and, in the later stages, marked heart fibrillation which is almost a heart block. In exophthalmic goiter the same symptoms occur only very late. In the early stages the pulse runs rapidly. In the exophthalmic goiter case, it may run to 180, but in cases of degeneration of the gland it is often too rapid, weak and irregular to be counted easily.

Referring to iodine: Marine believes that iodine has much to do with the function of the gland. In a study of many of these cases we find that the iodine content of the adenoma may be way down or way up, that it does not follow the rule found in the hypertrophy and hyperplasia of exophthalmic goiter in which the iodine content is very low. And yet these patients have hyperthyroidism.

These cases are both medical and surgical. There is no question but that some goiters get better spontaneously, and that many simple goiters in the young disappear. I have had a number of patients come to me to have something done to get rid of the exophthalmos, the only symptom of the exophthalmic goiter remaining.

Up to the time of Graves and Basedow hyperthyroidism was attributed to diseases of the nervous system and the central nervous system was believed to be at fault. Medical men resisted the idea that any surgical work done on the thyroid would benefit the patient. Kocher believed this until he had observed a few experimental cases and especially the pseudo-hyperthyroid cases, although at that time we did not know the cause of hyperthyroidism.

Innervation of the gland is through the sympathetic system. Jaboulay and Jonnesco advocated removal of the sympathetic ganglia, superior and middle. I studied the question in connection with epilepsy and goiter. Sometimes removal will help, but it has no permanent benefit, it does not do away with the exophthalmic goiter, and exophthalmos remains about the same. In 50 per cent of cases one does not get sufficient benefit to warrant the operation. The operation is advisable in a few cases associated with paring the outer canthus of the eyes and suturing it to cover the eyeball. I have seen several people totally blind from exophthalmic goiter, with the eyes open, ulcerated, eroded, and with loss of the cornea.

Operation—For the patient in whom the adenoma is beginning to grow and cause some pressure, operation should be advised because many of this group of patients at forty-eight will have serious hyperthyroidism.

We advise operation in exophthalmic goiter. If it is right to operate at all, it is right to operate early. There should be no mortality in the early stages; it is only in those cases in which the operation is done after complications that death occurs. It is just as right to operate early in these cases as it is to operate on gall-stones early, not waiting until the common duct and pancreas are involved. The patient should be told that at this

time the operation is safe and advisable, and at the same time he should be told that a small percentage of patients will get well themselves after many years, and that medicine will help tide them over attacks. In the same manner medicine tides patients over the old spells of so-called neuralgia of the stomach, which used to be the term applied to gall-stone attacks because of mistaken diagnosis. Tiding them over serious exacerbations is not a mistake. The x-ray may give some temporary benefit in certain cases. The use of radium in connection with goiter has not yet been worked out. Radium works on the cell nucleus; the nucleus must divide before the cell does. Radium treatment has never been followed by cancer to my knowledge. The x-ray acts indiscriminately on the protoplasm of the cell. Each cell that builds up a part of community existence has its center of control, and if the x-ray should destroy the control body of the cell then we can have overgrowth under proper environment.

The thyroid, then, should be operated upon early. In the late cases, the type Crile speaks of, extra care should be exercised. Surgeons who are just starting in the work could not do better than to follow his careful plan to keep a low mortality. The mortality fluctuates according to the cases, and it is sometimes difficult to tell what the patient will do. For instance, in some cases the metabolism is increased to 40, 60 or even up to 100 points above normal. Such patients are hungry all the time, they are eating twice as much as normal persons and yet are losing weight; the draft is open and they are burning up the oxygen, the carbon ash is leaving the cells and going out in the expired air. It is a condition in which an engineer would test the smoke in the chimney to see what the weight is and how much oxygen is going in to make the exchange with the carbon. Fuel of any sort depends on its carbon. Thus a person with an overworking thyroid is working from 30 to 70 per cent above normal. What attention should he pay to it? If this percentage is coming down the patient may stand quite a severe operation. But if it was +40 or +50 per cent and is now +60 per cent and the patient is losing weight, operation should not be done. This is a medical case. Every possible effort should be made to carry the patient to a stage where he is beginning to gain because these cases fluctuate in severity. The patient who is getting better will stand a lot. If metabolic tests cannot be made a vessel at the upper pole, say on the left side, may be tied under local anesthesia, and the reaction observed. Precaution should be taken to make the patient think you are doing a

very little thing, that you are creating an edema with weak local anesthesia. If there is a marked reaction during the next five days tie the other side and wait three months. If at the end of five days after the first ligation there is no rise of temperature and pulse the operation can be done at the end of five or six days, taking out the most of right lobe, the isthmus and half or more of the left lobe.

There will be 10 per cent of recurrences in exophthalmic goiter within from two to five years after operation. The stimulus may be toxic. I have seen exophthalmic goiters that I felt sure came from chronic infections of the tonsil. But there we have the chemistry of the cell, just as in the chemistry of the soil which we can change by liming and by drainage. So we have bacteria in some thyroids that we can cultivate, with no appearance of inflammation.

PHYSIOLOGY OF THE HEART BEAT*

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The heart is divided into four chambers—the two auricles and the two ventricles. The heart beat is a complete cycle, beginning with the simultaneous contraction of the two auricles, followed by the immediate contraction of the two ventricles; then there is a period of rest during which the heart is filling with blood. The period of contraction is called systole, the period during which the heart is at rest and filling with blood is called diastole. Strictly speaking the heart beat begins, not in the auricles, but at the mouths of the great veins, which correspond to a definite chamber, the sinus venosus, in the heart of the lower vertebrates.

The adult four chambered heart is derived from a simple tube in the embryo. This origin is shown by the fact that the musculature of the auricular walls is common to both chambers, surrounding them as if they were a single chamber, and the same is true of the ventricles. In the auricles there is a superficial layer of fibers which runs transversely and encircles both chambers. Besides this there is a more or less independent layer of fibers which lie at right angles to the superficial layer and which may be considered as loops arising and ending in the auriculo-ventricular ring. In the ventricles the superficial layer is also common to both chambers. They begin in the auriculo-ventricular ring of one ventricle and pass in a spiral course through

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the papillary muscles and their tendons to end in the auriculo-ventricular ring of the other ventricle. Beneath these superficial fibers is a more transverse band which passes in the form of a scroll through the septum from one ventricle to the other, the bands beginning most superficially in the one ventricle ending the most deeply in the other. In addition to these there are other bands which belong entirely to one ventricle, the most prominent being in the left ventricle.

The matter of a connection between the auricles and ventricles is of great physiologic interest. In the hearts of the lower animals there is such a connection, but in the higher mammalia there is a complete tendinous ring at the junction of the auricles and ventricles. There is a connection, however, and it consists of a bundle of fibers called the auriculo-ventricular bundle, which arises in the interauricular septum and runs through the tendinous auriculo-ventricular ring and ends in the muscle of the inter-ventricular septum under the origin of the aorta.

Cardiac tissue differs from other contractile muscular tissue in its properties of (1) automatism, its power of contracting in the absence of external stimuli; (2) rhythmicity, its power of responding to continuous stimulation by a series of repeated contractions; (3) conductivity, its power of conducting the contraction wave or the impulse to contraction once it has been set up; and (4) the power of co-ordination by which the various parts of the heart beat in a regular sequence. Much controversy has arisen as to the origin of these powers, and investigation has led to two different hypothoses, the myogenic and the neurogenic. The myogenic hypothosis holds that the cardiac muscle cells have the power not only of responding to an external stimulus, but also of originating that stimulus within themselves. The neurogenic hypothosis contends that the rhythmic beat is dependent upon the transmission to the muscle cells of the heart, of impulses originated in the nerve cells, and transmitted along the nerve fibers of the local nervous system. There is, however, no conclusive evidence for either the neurogenic or myogenic hypothoses which will not break down under close scrutiny, and it is evident that any conclusion can be only tentative.

In support of the myogenic theory the following evidence has been advanced. In the heart of the chick embryo, rhythmical contraction begins before any nerve cells have grown into it, and if portions of the heart muscle are removed from the embryo and placed in blood plasma they will continue beating with a rhythmical contraction

for many days. It has also been observed that isolated muscle cells will wander off from the mass of cardiac muscle and undergo multiplication and differentiation so as to produce muscle cells which show rhythmic contractility. It may be, however, that the embryonic muscle cells may have the power which is later lost by the adult muscle cells.

The nervous system of the heart may be damaged by drugs or by mechanical means without apparently interfering with the power of rhythmical contraction. In the heart of large turtles it is possible to dissect out a large amount of the nervous tissue without any disturbance of the beat, and in all animals, the administration of atropine, which paralyzes the post-ganglionic fibers of the autonomic nervous system, does not affect the beat.

The apex of the heart of some animals may be shown by careful histological examination to be devoid of nerve cells, yet this nerveless piece of muscle can be made to beat rhythmically by perfusing it with a suitable saline solution. Even the heart of mammals may be kept beating for several days after removal from the body, while nerve cells as we know, at least of the central nervous system, cannot be made to function for more than a few hours after death.

In support of the neurogenic hypothosis the main evidence is that brought forward by Carlson. The heart of the *Limulus*, the king crab, is definitely dependent for its rhythmic contractility upon a definite nervous structure. The *limulus* heart is a tubular organ on the dorsal surface of which there is a longitudinal nerve cord which contains ganglion cells and which gives off nerve fibers directly to the heart substance and also to two lateral cords. Now, if this central nerve cord is removed, which may be done without injury to the heart muscle, the automatic rhythmic contractility of the heart is forever lost. The muscle of the *Limulus* heart, however, after removal of the nerve cord, acts like any ordinary skeletal muscle in its response to stimulation and not like the heart muscle of other animals. This evidence, while showing that the heart of the *Limulus* depends upon a nervous structure for its rhythmic contractions, would not likely hold good in the hearts of other animals having different physiologic properties.

In all hearts the greatest rhythmic power is situated in those places where the nervous structures of the heart are best developed. But the difference of the rhythmic powers may be in the character of the muscle cells themselves. In the sinus, where the rhythmic powers are the greatest,

the muscle cells approach most closely the embryonic type.

The general consensus of opinion would be that the power of rhythmic contraction is inherent in the muscular tissue, being most highly developed in the venous end of the heart and least in the tip of the ventricle. Such a conclusion does not deny the power of rhythmic contractility to the nervous structures in one heart at least, namely that of the *Limulus*.

The primary cause for the automaticity of the heart must still be sought for whether the automatic power is inherent in the nervous tissue or the muscular tissue. In the heart there must be a stimulus continually produced, which we may call the inner stimulus. Such a stimulus must be present, either in the products of the metabolism of the heart, or in the composition of the blood or lymph bathing the heart tissues. While no product of metabolism has ever been isolated capable of producing such a stimulus, it has been shown in later years that this inner stimulus is connected with a definite composition of the blood perfusing the heart tissue. The earlier experiments as to the chemical conditions necessary to the maintenance of the heart beat were made upon the hearts of the cold blooded animals. It has long been known that the heart of a frog or turtle may be kept beating normally for many hours after removal from the body if it is provided with an artificial circulation of blood or lymph. Ringer afterwards proved that the same results may be obtained if the heart is perfused with a solution containing sodium, potassium, and calcium ions in the proper proportions. The function of the sodium ion is two-fold; (1) to provide the proper osmotic pressure, and (2) to perform the special role of the sodium ion in the origin and maintenance of the beat. If a strip muscle is placed in a solution of cane sugar of the proper osmotic pressure, but containing no sodium chloride, the contractions soon cease, but if a small amount of sodium chloride is added to the solution, the muscle will soon begin again its rhythmical contractions. The action of the calcium is somewhat similar. If a strip of muscle which has been made to cease to beat by immersion in isotonic sugar solution, is placed in a weak solution of calcium chloride before it is placed in sodium chloride solution, the spontaneous contractions will return earlier and last for a longer time. If, however, the concentration of calcium chloride is too high the beats will become smaller and smaller in amplitude until finally the muscle stops beating in a state of extreme contraction. The presence of potassium in the per-

fusing fluid does not seem to be absolutely essential, for the heart will continue to beat for a long time in solutions in which there is no potassium. That it has a profound effect upon the beat however is shown by the fact that when the potassium is in excess, the beats become slower and slower and the muscle is greatly relaxed between the beats, until finally it comes to rest in a condition of extreme diastole. It is probable that the stimulus responsible for the rhythmical contraction of the heart is dependent upon some sort of chemical union between the inorganic cations and the contractile substance of the heart. The union of the calcium ion with the contractile substance will lead to contraction or systole, while the union of the sodium or potassium ions will lead to relaxation or diastole.

In order to investigate the origin and propagation of the heart beat, it will be necessary to have an understanding of the conducting tissue of the heart. In the embryo of all animals the heart arises as a primitive tube. As development proceeds diverticula grow off from this tube to form the auricles and ventricles. In the simple heart of the lower animals it is easy to trace the remains of this primitive tube, but in the higher mammals it becomes correspondingly difficult. By careful histological examination it may be shown that it exists, however, in the form of definite structures composed of tissue quite different from the rest of the heart and is disposed in such a way as to indicate that it is derived from the primitive tube and that it is the pathway by which the beat is transmitted. The most prominent of these primitive cardiac structures is the auriculoventricular node, which is found at the base of the right intraauricular septum near its posterior margin. From this node proceeds a bundle of tissue to the interventricular septum, bifurcating just below the aortic valve to send a branch down each side of the septum. These branches break up into an intricate network which ramifies over the inner walls of the ventricles to form the so-called Purkinje fibers. The rest of the tissue between the auricles and ventricles is fibrous in character. Another mass of primitive cardiac tissue has been found in the area between the openings of the venæ cavæ and the coronary sinus which has been called the sino-auricular node. There is no evident connection between the sino-auricular and the auriculoventricular nodes. The muscular fibers of the auricle, moreover, radiate in a peculiar fan-shaped manner from a point just below the sino-auricular node to all parts of the right auricle.

Having determined the disposition of the primi-

tive cardiac tissue in the mammalian heart we may examine the evidence that points to the origination and conduction of the excitation impulse in this tissue. If a mammalian heart is excised it will continue to beat for a few moments and the power of contraction remains longest at the base of the *vene cave*. While this is not conclusive, still it is very probable that the automatic power would last longest where the impulse was originated. Warming the region of the sino-auricular node increases the heart rate, but warming the ventricle has no affect, and cooling the node has the opposite affect in slowing the rhythm. If strips of muscle are taken from various parts of the auricular walls and their comparative rhythmic power determined, it is found that it is greatest in those strips taken from the region of the sino-auricular node. While all this evidence points to the origin of the excitation wave in the sino-auricular region, the most conclusive evidence is that obtained by studying the electrical variations which accompany the heart beat.

That the heart beat is accompanied by an electrical discharge was first shown by Kolliker and Muller in 1856, when, by laying upon the beating ventricle the nerve of a muscle-nerve preparation, at each beat of the heart a contraction of the muscle was obtained. If a simple strip of heart muscle is connected by means of non-polarizable electrodes to a sensitive galvanometer and stimulated at one end, the galvanometer shows two deflections. The first deflection accompanies the commencement of muscular activity and has the same direction as when the galvanometer is connected to the zinc end of a copper-zinc couple. Active muscle, therefore, is in a state of relative negativity. The second deflection occurs when the contraction wave has reached the opposite end of the muscle, and is in the opposite direction, the two deflections forming a diphasic curve. The amplitude of the galvanometer swing is greatest when the time interval between the receipt of the excitation at the two contact points is greatest. The excitation wave is bound up with the contraction wave, preceding it by an exceedingly short interval, and is probably the result of the physico-chemical processes which immediately precede contraction.

If a pair of contacts are placed upon any given area of mammalian auricle, the galvanometer deflection varies in amplitude as the contacts are rotated through an angle of 90 degrees. The line upon which there was the greatest amplitude of the galvanometer deflection would presumably be the natural line of the excitation wave. These

lines upon the mammalian auricle are found to concentrate in the primary point of negativity. This point overlies the position of the sino-auricular node, which we may consequently assume to be the starting point of the excitation wave. That this is so may be shown by careful measurements, that the first appearance of the excitation wave is over the head of the sino-auricular node, and that it appears at all other points at a later time. The excitation wave spreads from this central point radially in all directions at a uniform rate of about 1000 mm. per second. It courses through the whole auricular tissue up to its ending in the chief veins and down the septum to the auriculo-ventricular node. From the auriculo-ventricular node the wave is transmitted to the ventricles through the auriculo-ventricular bundle, which has been clearly proven by the experiments of Tigerstedt and Erlanger, who compressed, by means of special instruments, the auriculo-ventricular bundle. By varying the pressure the ventricle may be made to beat at varying rhythms. This condition may be duplicated by clinical experience, for, in cases showing heart block, definite lesions of the auriculo-ventricular bundle may be found at autopsy. After the excitation wave passes through the auriculo-ventricular bundle, it is distributed to the ventricles by the Purkinje system, that universal sub-endocardial network. As the excitation wave appears first and practically simultaneously in those parts best supplied by the branches of the auriculo-ventricular bundle, it is fair to suppose that the wave is carried by the Purkinje system, and not by an orderly progression through the muscular fibers as in the auricles.

While the essential origin of the heart beat is in the tissue of the heart itself, still the beat is constantly being influenced by impulses from the central nervous system. The heart receives two sets of efferent nerve fibers, one through the vagus, which slow or inhibit the heart and are called inhibitory fibers, and the other set through the sympathetic chain, which accelerate the heart beat and are called accelerator fibers. If the vagus nerve in the neck is stimulated, the heart beat is slowed or stopped altogether according to the strength of the stimulus. If the heart is examined while in a state of complete inhibition, it will be found that it has stopped in diastole and that the diastole is more complete than normal. The affect upon the heart depends upon the strength of the stimulus, a mild stimulus decreasing the force of the beat, while a stronger stimulus will decrease the rate as well. The vagus

inhibition effects mainly the venous end of the heart, and does not in some hearts affect the ventricle directly, but only as it is affected through the auricle. The inhibition will not keep up indefinitely even if the stimulation of the nerve is kept up; sooner or later the heart will begin beating again if it has been brought to a complete standstill, or the beats will be quickened if the heart has been only slowed. The inhibitory fibers arise in the great motor nucleus, the nucleus ambiguus, which is situated in the medulla and is bilateral. The cells of the cardio-inhibitory center are constantly sending out impulses to the heart so that the heart rate is continually slower in rate than it would be if the inhibitory center did not exist. If both vagi are cut the heart rate is greatly increased and the blood-pressure rises on account of the greatly increased output of blood. The continuous action of the cardio-inhibitory center is not caused by any automatic process of the center itself, but is due to the continual flow of impulses into the center from the sensory nerve paths.

The accelerator nerve fibers are derived from the sympathetic system. The effect of the stimulation of these fibers is an acceleration of the beat of the heart, which may be very great, or may be very slight, depending upon the strength of the stimulus. When acceleration is obtained there is a considerable latent period and after the stimulation ceases the heart does not at once return to its normal rate. In some cases the effect of the stimulation is acceleration pure and simple, and the larger number of beats is offset by a decrease in the force of the beats so that the blood-pressure is not increased in the least. In other cases the force as well as the frequency of the beats will be increased, while in others only the force will be augmented. This would seem to show that the sympathetic fibers were of two kinds, one concerned only with the augmentation of the beat, and the other with the acceleration of the heart. The results of experiments show, as with the inhibitory fibers, that the accelerator fibers are in a state of tonic activity. When the sympathetic nerves of both sides are cut, the rate of the heart is permanently decreased. The accelerator fibers arise primarily in the central nervous system. If the upper cervical cord is stimulated, the heart will be accelerated, so that it is fair to assume that the path must begin somewhere in the brain, though the exact location has not as yet been definitely determined. It is seen, therefore, that the heart is under the control of two forces that are directly antagonistic, and that the actual rate of the heart at any time is the

resultant of these two forces. While such a balanced mechanism may seem to be unnecessary, it possibly makes the heart more quickly responsive to reflex regulation.

Mechanically considered, the heart is a combined force and suction pump in the cycle of whose activity the contraction and relaxation of its musculature and the movements of its valves impart to the constantly moving blood stream those variations in pressure which we recognize as the venous and arterial pulse, and the accompanying auscultatory phenomena which we term the heart tones, together with certain variations of electrical potential in its musculature induced by its excitation and contraction, all of which reveal to us the time, order and sequence of its intrinsic movements.

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THE USUAL CLINICAL SYMPTOMATOLOGY OF HEART DISEASE*

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At the present time there seems to be a great tendency on the part of certain investigators to try to place the practice of medicine upon an exact scientific basis comparable to the sciences of chemistry and physics. In many cases the human element has been grossly neglected, and the perverted idea that all individuals will react alike to certain diagnostic methods and procedures has been brought very prominently before the eyes of the profession.

The laboratory man has decried the methods of the old practitioner and accused him of relying on the superstitions and faith of his patients, but little does he realize that in many instances his exacting examinations have added to rather than detracted from the mysteriousness of the family doctor. So many unnecessary examinations are being made today merely for the impression that they may make upon the patient in giving him confidence in our own ability, and the laity are not the only ones who are being misled for there are many doctors who are becoming firm believers in the idea that a positive laboratory diagnosis is possible.

There must be a better understanding between the clinician and the laboratory man. Why can

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not we come to a common meeting place, for there is no doubt but that the laboratory has a definite place in the practice of medicine, but it can never be the final word. Let it then be placed where it belongs—one of the aids to clinical medicine. I can not help but think of one of the sayings of an old professor: "laboratory findings are all right when they corroborate your physical findings."

The laboratory man will never be able to take the certain mysteriousness out of medicine until he can solve certain phenomena associated with life. When we learn whence we came, and whither we go, these exacting examinations may lead us to a diagnosis, but then doctors will no longer be necessary.

Perhaps the preceding has been far removed from the subject of the symptomatology of heart disease, but with the increasing inclination in cardiac research to place the clinical study of hearts on such an exacting foundation, I can not help but try to awaken in each of you the fact that the future of each individual heart does not rest in the electrocardiograph, polygraph, etc., but in yourselves.

The future investigations of heart disease are not going to be confined to the laboratory, but, as Sir James MacKenzie has pointed out, the next phases which must be investigated are the earlier changes and these necessarily must remain in the hands of the general practitioner who is so closely associated with the people and to whom the earlier symptoms will be presented. There is no doubt but that the day is not far distant when people will report regularly to a medical man for a complete examination, therefore until that day we will have to continue our present methods of waiting for our patients to present their complaints.

It is these earliest symptoms in which the medical profession is interested in heart disease, for if evidences of impending trouble are detected many years will be added to the lives of these people. It is well known that the heart has a tremendous reserve of energy and with proper apportioning, this can be made to carry out the work of the individual heart satisfactorily for many years.

In the past, it has often been the custom to consider the clinical aspect of heart disease from the standpoint of each individual lesion, but broadly speaking, the usual clinical symptomatology of heart disease is based on the efficiency of the individual cardiac musculature.

With few exceptions it can be said that no matter what lesion is present, if the heart muscle is

able to overcome the extra load of that lesion, there is going to be maintained a circulation that will functionate for that individual, so that if the early signs of impaired cardiac efficiency are detected, clinical investigation of cardiac disease has advanced considerably.

As the sole function of the heart is that of a pump, it may be well to consider it in that light, bearing in mind that it maintains two circulations. It is well known that in any pump, where there is any interference to the circulating fluid, whether within the pump or without, its efficiency will be lowered, and its ability to maintain a circulation will be in direct ratio to its reserve power. So it is with the heart, and it will be necessary to be on the lookout for the first signs of any disturbance in the circulation. Any discomfort, such as palpitation, pain over the precordia, giddiness or slight dyspnoea, that is produced by an effort which formerly was not productive of distress, is a symptom of lessened cardiac efficiency, and it is to these people that special attention must be given.

In the past it has been necessary to give much time and energy to those people whose cardiac efficiency was practically exhausted, but now, an endeavor must be made to start a new era of investigation which will bring out not only to the profession but to the people, the earlier signs of impending cardiac failure.

Naturally the first subjective signs will be one of lessened efficiency which essentially means that the heart is not able to do its work. As the heart possesses such a large degree of reserve energy it will not be until this reserve is infringed upon that there will be any symptoms, therefore, the first symptoms will be those of myocardial insufficiency or weakened musculature.

As the heart maintains two circulations, which, while dependent upon one another are more or less separate, so there can be failure of one circulation or the other. In other words there can be failure of the right heart or left heart or both, depending on where the extra work has been added. If the circulation of the right heart has been impaired, then it is the right heart that is going to show signs of lessened efficiency, and heart failure will be of the right sided variety and vice versa. In other words anything that interferes with the output and to some extent the intake of either side of the heart will embarrass that side as soon as its reserve energy is gone.

Left sided failure is probably always ushered in by a feeling of faintness when going from a

supine to an erect position; dizziness and headache are common; sensation of throbbing in the extremities, palpitation, dyspnoea and precordial pain on exertion. As can be seen these symptoms do not necessarily begin with anything referable directly to the heart, and why; simply because the heart is not able to properly keep the systemic circulation in balance, so that the first symptoms arise from those organs that have an insufficient blood supply.

In right sided failure there is noticed first, a dyspnoea on exertion, followed by palpitation, congestion of face and lips, cough, possibly hemoptysis, edema of the feet and legs, and distention of the abdomen from ascites and congestion of the liver. These symptoms are what would be expected from (first) a damage to the outflow which improperly aerates the blood, and (second) a damage to the intake which gives us systemic congestion and edema.

Besides these subjective signs there are certain objective signs that it may be well to recall at this time and they are in relation to the size and direction of the enlargement of the heart. When the left side enlarges the heart becomes very large, due to the fact that the left ventricle is normally larger because of the heavier musculature, and it necessarily has a greater ability for hypertrophy. Also the enlargement is downward and outward while in right side difficulties it is mainly outward.

So far, the subject of lesions has been purposely neglected because in taking up the symptomatology of heart disease they appear to be more or less of a secondary consideration. The primary thing is to learn when the heart is failing to do the work and then go into the reason why it is failing.

The most common lesions producing left sided failure are aortic regurgitation, aortic stenosis, mitral regurgitation, hypertension and long continued exertion. There are other conditions producing this left sided disturbance, but here I only want to consider briefly the physical signs of those which are most frequently seen.

Aortic regurgitation allows the blood to leak back from the aorta into the left ventricle which tends to empty the arterial circulation more rapidly giving us the typical picture, throbbing carotids, Corrigan pulse, capillary pulsation, pistol shot sound over the femorals, and a high pulse pressure. On percussion will be found the large bovine heart. The murmur, diastolic in time, is heard best to the left of the sternum at about the fourth rib; it is transmitted over the precordia and to the vessels of the neck.

Aortic stenosis is not so very common and rather hard to diagnose. Here there is a systolic murmur in the second right intercostal space and transmitted to the neck, a pulse wave that rises slowly and falls slowly, quite different from aortic regurgitation, a thrill over the aortic area is felt in many cases and finally the greatly lessened aortic second sound. The enlargement is much the same as in aortic regurgitation, but seldom reaches such marked degree.

Mitral regurgitation, the most frequent valvular lesion has a murmur, systolic in time, that is heard best at the apex, transmitted to the left axilla and back and may be heard over the entire praecordia; in some cases an accentuated pulmonary second sound. This lesion demonstrates best that there will be no subjective signs as long as cardiac efficiency is maintained, for this condition may be present for years without the patient being aware of any faulty mechanism of the heart.

Hypertension was formerly associated only with arterio-sclerosis, but gradually it is being recognized that some people normally carry high pressure and other cases are the result of toxemia. In this condition the output of the left heart is interfered with which adds more work to the left ventricle. The condition is often so closely associated with kidney changes that it is really a phase of the so-called cardio-renal disease. The symptoms may not be those of cardiac embarrassment at first. There may be severe throbbing of the arteries of the head or elsewhere, severe headaches, slight attacks of dyspnoea, gastric distress, some signs of urinary disturbance or certain eye changes. When the heart becomes involved, dizziness, severe dyspnoea, and edema will appear.

Long continued exertion such as is common to athletes or heavy manual laborers in many respects is a subdivision of the previous condition, for it increases greatly the pressure in the arteries. There is often a soft systolic murmur to the left of the sternum, at about the level of the fourth rib, just the reason for this murmur I can not tell.

Left sided failure is not confined to the conditions considered, but may be produced by hyperthyroidism, certain toxic materials as tobacco and alcohol, extreme nervous states, etc. In going over these conditions there would be nothing to lead especially to the heart until there appear evidences of cardiac failure, except in those cases of extreme nervousness.

Common causes of right sided failure are mitral stenosis, fibroid lung, chronic bronchitis, con-

genital pulmonary stenosis, and pulmonary incompetency.

Mitral stenosis is one of the hardest valvular lesions to diagnose, and is very frequently overlooked. The first sound at the apex has a peculiar accentuation which is very typical, but rather hard to describe. It is as if the heart slapped the chest wall at that point. Then there is the accentuation of the second pulmonic sound. The murmur of the lesion is presystolic in time, heard best over a small area at the apex, not transmitted and often accompanied by a definite thrill. As the condition progresses the heart becomes enlarged in the transverse diameter. All of these signs are brought out very much by exercise. The army examinations were instrumental in showing the importance of this lesion.

Fibroid lung and chronic bronchitis are not cardiac conditions, but are instrumental in producing right sided failure in as much as they tend to obstruct the outflow from the right heart.

Congenital pulmonary stenosis will give a history of cyanosis from birth. There is present a systolic murmur, at times a systolic thrill, in the second left intercostal space. The second pulmonic sound is very weak.

Pulmonary regurgitation is rare and difficult to recognize being easy to confuse with aortic regurgitation, which also has a murmur diastolic in time. However, the pulmonary lesion does not give the Corrigan pulse, and the murmur is not transmitted to the neck. The enlargement of the heart is outward rather than downward.

The subject of blood-pressure naturally will present itself in considering the subject of cardiac symptomatology and there is certainly very much literature to be found on it, but it appears as if the exact significance of blood-pressure was still somewhat undetermined, whether this state of ignorance is due to lack of proper means of recording, lack of proper interpretation, or that unknown in medicine, the reaction of the individual, it is hard to say.

Undoubtedly extreme high pressure and extremely low pressure are significant, but it is very difficult to determine definitely these limits. Roughly speaking any systolic reading over 200 and under 90 is at least worthy of investigation. Personally, I think that the relation of the pulse pressure to the systolic is of the greatest importance from our present understanding of the subject. However, an investigator has very truthfully said that a high systolic pressure is indicative of myocardial weakness.

In conclusion I wish to say that I do not want to speak disparagingly of any laboratory man or

his work, but I do want to impress upon him the importance of the human element in medicine, and to warn those engaged in the active practice to learn to interpret the laboratory results to fit the clinical aspect of any given case not only in heart disease, but other conditions. Secondly, heart disease is not measured in terms of murmurs but efficiency. Your individual heart is going to survive just so long as it works within certain definite limits and it is up to you to find by trial and to designate just how much each individual can do. Recognition of lesions are of importance only as past experience has taught us that certain lesions are of more serious nature than others.

THE THERAPY OF CARDIO-VASCULAR DISEASE*

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It has been deemed advisable to limit this paper to a discussion of the therapy of cardiopathies of the infectious type, with only incidental reference to nephro, angio and other cardiac conditions. Prefatory to this we must indulge in some remarks relative to casual factors in cardiac pathology and the principles of cardiac therapy.

Classification:

1. Congenital Cardiopathies—Imperfect muscular walls, imperfect valves, imperfect circulation.
2. Toxic—Goiter, etc.; drugs—Alcohol, tea, tobacco, coffee, etc.
3. Infectious—Rheumatic or streptococcus, syphilitic.
4. Angio.
5. Nephro.
6. Pulmonary.
7. Fatty.

The familiar sequence of events following a lesion in any segment of the circulatory apparatus must be kept before us. A break in continuity at one point tends to promote lesions remote from the original. It must be borne in mind that whatever increases the resistance in the lungs imposes an increased burden on the right ventricle. Whatever increases the resistance to overcome by the left ventricle whether it be aortic or peripheral, throws added work on this segment. In either instance, the increased work demanded, if continuous, must result in hypertrophy of the muscular walls to permit the heart to perform work in excess of the amount imposed when

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functioning under normal conditions, that if the nutritional process is to be maintained.

Cabot says: "A heart subjected to the stress of leakage or obstruction in one or more of its valves, is constantly overworked and in time becomes unable to meet the demands made upon it." A break in compensation occurs. This may be sudden or gradual, and always results in venous stasis. If the left ventricle is especially weakened dropsy first appears in the lower extremities owing to the influence of gravity, followed by the same condition in the genitals, lungs, liver and serous cavities. When decompensation of the right ventricle occurs it is manifested by dyspnoea, cough, cyanosis, hæmoptysis, general venous stasis, dropsy of the serous cavities and general anasarca."

We may distinguish three periods in the progress of lesions, due to infection:

1. The period before the establishment of compensation.
2. The period of compensation.
3. The period of failing compensation.

During the first and second periods the same general treatment is applicable, while as we shall see later, the third requires the use of certain principles of treatment which are detrimental in the antecedent conditions mentioned. We must above all things avoid the error of adopting routine treatment for all heart affections. Each individual case will present features peculiar to itself, and the clinical picture will vary from time to time.

There are two general therapeutic principles, those of Hoffman, which give us a working formula of inestimable value, namely:

1. Sedation—Protection, rest.
2. Stimulation—Baths, exercise, cardio tonics.

In the treatment of the individual case we employ each principle separately or associate the two, as indicated. If we are so fortunate as to recognize an inflammatory lesion before dilatation and hypertrophy have occurred, we apply the first principle,—rest and protection. Undoubtedly many patients if given complete rest at this period will escape the graver anatomic changes so inevitable when protection is not afforded. The opportunity for permanent relief is greatly enhanced if local foci of infection be eradicated. The value of rest is paramount. It must be complete, both physical and mental. It is best secured by confinement in bed and by shielding the individual from all disturbing mental influences. I recently saw a patient whose improvement was greatly retarded by a family quarrel

due to each faction insisting on entertaining the patient at a time when same was undesirable and contrary to orders.

The form of diet should be adapted to the needs of the individual. Unless there are special contraindications, as in nephro and angio-cardiopathies, a well balanced diet containing the basic food elements in proper proportions is best. Care should be exercised to avoid too large feedings. It is often better to give a limited amount of food at three hour intervals, namely, five feedings per day, than the classic three meals to which we seem wedded. I wish to caution against the unlimited and exclusive use of milk. It is positively harmful in nephro-cardiopathies, whereas, because of its pronounced diuretic effect it may prove exceedingly beneficial in arteriosclerosis. The amount of fluids allowed must be governed by the conditions present, and the renal capacity. We must limit the water intake particularly if dropsy is much in evidence. Strictly limiting the salt intake is also desirable in general stasis.

Not only in the condition preceding hypertrophy and dilatation, but when these changes have occurred, stimulation by the use of drugs is contraindicated if compensation is not disturbed; on the contrary it is positively harmful. One of the commonest errors in the treatment of cardiac disease is the exhibition of heart stimulants simply because a murmur or evidence of hypertrophy is discovered. It is much more sensible to use protective measures and be content to surround the patient with the safeguards of a quiet orderly life free from undue physical exertion, mental worry and excitement. In this condition moderate exercise is beneficial in the absence of dyspnoea and palpitation, while over exertion, mental worry and impaired nutrition profoundly disturb compensation.

If extreme nervousness and insomnia are in evidence distinct benefit is derived from a hypodermic of morphine at night, its sedative effect is decidedly beneficial. Its use should be limited, however.

In decompensation the two principles must be associated, protection through rest, careful feeding and the induction of sleep are still applicable to guard the heart from over-exertion. Co-incident with the application of the principle of protection, the principle of stimulation is employed to increase the efficiency of the heart muscle. Every effort must be used to strengthen the heart that it may develop the force necessary to maintain efficient circulation.

Lewellys F. Barker says: "We have come to learn the enormous significance of the heart mus-

cle for the maintenance of circulation, even after the valves are seriously and incurably diseased."

Stokes long since told us that the very essence of cardiotherapy lies in recognition of the muscular power of the heart.

In applying the principles of stimulation we have recourse to baths, exercise and drugs as heretofore mentioned. Carbonic acid gas baths in the less serious grades of decompensation are of value in temporarily slowing the heart and raising blood-pressure. Their use is contraindicated in graver conditions, and in no case should they be given except by those skilled in their application. Their effect is materially modified by the temperature of the water and the amount of gas used.

In determining the character and amount of exercise required, one must be exceedingly cautious. The value of general massage to maintain muscle tone and influence peripheral circulation is very great. In the application of the stimulus of active exercise, judgment and caution must be observed. We must feel our way step by step and be guided by the results. It is impossible to lay down arbitrary rules of exercise applicable to all.

Cabot says "after a considerable trial of methods by which it has been proposed to test cardiac power through watching the heart's response to measured doses of work, I am convinced that the best tests are the ordinary duties and pleasures of life which the patient naturally tries in convalescence."

In the selection of drugs for the purpose of stimulation our choice is limited, but we have one which by unanimous consent is deemed superlative, namely, digitalis. In prescribing digitalis the initial doses must be governed by the urgency of the need for it. To effect rapid digitalization, from 30 to 60 or more minims may be given at from four to six hour intervals, carefully observing the effect of each dose before giving the next. If the heart drops to 60 or thereabouts the amount is then reduced and the full influence of the drug may be maintained by giving from 20 to 30 minims per day thereafter.

The researches of Hatcher and Eggleston has shown that an average of 22 minims of the tincture is destroyed or eliminated by a person of average size each twenty-four hours, the variation being from 55 per cent below, to 82 per cent above the average. Hence, if the effect of the amount prescribed is insufficient it is necessary to increase it, while if nausea, vomiting, bradycardia, arrhythmia, or other symptoms of overstimulation appear, the amount should be reduced. In my opinion, the preparation used is

immaterial, assuming the leaves from which it is made to be of average strength.

The effect of digitalis is so well understood as to scarcely require comment. It slows the heart, permitting it to fill and empty more completely, thereby improving nutritional processes, which in the last analysis is the prime object of circulation. Notwithstanding its beneficence, digitalis is capable of doing infinite harm when used improperly. In advanced mitral stenosis extreme care should be used in giving digitalis, for under its influence the pulse is especially apt to assume the bigeminal or coupled type. No other valvular lesion is so frequently associated with embolism, hence a possible danger in the administration of this drug in stenosis of the mitral orifice. In arrhythmia, due to a disturbance of conductivity in the bundle of His, digitalis should be used cautiously, for partial block may become complete under its influence as it has the property of inhibiting conductivity. Some clinicians object to its use in aortic cases, as they deem it inadvisable to slow the cardiac rate or increase blood-pressure in these cases, but it should be used in this condition, in my opinion, if the blood-pressure is falling.

One other drug is serviceable under certain conditions. I refer to strophanthin. One-half miligram intra-venously is occasionally of the greatest service where a failing heart requires prompt stimulus; the response in suitable cases is truly magical. Its sudden toxic effect on the heart muscle coming without warning must not be ignored however.

In grave forms of decompensation with pronounced venous stasis, it is imperative to aid the overburdened heart by the withdrawal of fluid through the use of purgatives, diuretics, and occasionally by tapping.

Calomel seems to have fallen into disrepute, but I am confident that it has been of great service to me. Used in rather large doses it produces free, watery stools and definite diuresis. The possibility of injuring the kidneys in nephrocardiopathies by the use of mercurials should not be forgotten. Latterly I have been more inclined to use salines or compound Jalap powder for this purpose.

Since Wright demonstrated the presence of spirochetes in the aortic walls, and the later research of Warthin has shown them to be present in the heart in many cases of myocarditis and arteriosclerosis, the dictum of the latter that the heart should be suspected of being syphilitic in every patient showing evidence of the disease elsewhere seems essentially sound. Cabot says

aortitis can be recognized only when it produces aortic regurgitation or aneurism. Reed takes the position that every case presenting symptoms of dyspnoea and substernal pain unexplained by other causes should be studied for evidence of syphilitic aortitis.

It is obvious that aortic regurgitation in a young adult, minus rheumatic history should be suspected of being due to syphilis. The necessity for persistent and intensive treatment when a diagnosis of aortic syphilis is made need not be emphasized. Arsphenamin administered intravenously in small doses, namely, an average of 3/10 miligrams at weekly intervals until six or eight doses have been administered; mercury salicylate by deep intra-muscular injection weekly for an average of twelve doses, coupled with the use of iodide of potassium internally is, in my opinion, the best method of treatment. This course of treatment to be repeated at suitable intervals.

Babcock in a recent article lays stress on the importance of persistent, long-continued treatment, and cites numerous cases wherein the improvement following treatment has been intensely gratifying.

It is with reluctance that I call to your attention a deplorable fact, namely, that syphilis is so frequently undiagnosed. It is with equal reluctance that I feel compelled to condemn the haphazard, inefficient methods employed in its treatment.

Since it has been established that streptococcus focal infections are responsible for a large per cent of inflammatory cardiopathies, and that aortitis and aneurism of the arch follow in the wake of constitutional syphilis, it is reasonable to assume that the incidence of cardio-vascular disease may be materially lessened by destroying foci of infection in the tonsils, teeth and elsewhere and by the earlier recognition of syphilis and its energetic and prolonged treatment.

In the treatment of cardio-vascular conditions we are confronted by the impossibility of restoring a damaged organ to its original anatomic condition, but we can, not infrequently, improve the circulation to an extent which will permit the victim to experience relative comfort and engage in agreeable and useful pursuits.



GRAPHIC METHODS IN THE DIAGNOSIS OF HEART DISEASE*

AUSTIN C. DAVIS, M.D., Iowa City, (Read by title)

In the diagnosis of cardiac disorders the pre-eminence of accurate clinical observation is undisputed. However, in the investigation of the activity of a structure of such complexity as the heart, the limitations of such methods are at times encountered, and at such times the value of reliable information obtained by other means becomes most evident.

Although myocardial damage, if severe, usually manifests itself by definite symptoms of impaired function, there is undoubtedly a period in many cases when the lesion, though silent, is definite and progressive.

Certain functional abnormalities as the arrhythmias at times do not yield themselves readily to an accurate classification as to their mechanism and site of origin, leaving doubt as to their clinical significance and often their therapeutic indications.

Some phases of the cardiac cycle as auricular systole and the auriculo-ventricular conduction period are not accompanied by outward manifestations of their occurrence, and a detailed knowledge of such phases must be obtained by special methods.

Consequently various instrumental methods have been adapted from the field of physiological research for the purpose of supplementing and corroborating physical examination and throwing additional light on clinical problems.

The two instruments which have been utilized most extensively and to greatest advantage in this respect are the polygraph and the electro-cardiograph.

The polygraph gives a graphic curve of the simultaneous pressures in two or more parts of the cardiovascular system. For clinical purposes the jugular vein and the radial artery are usually selected. By means of a series of levers and tambours the various waves occurring in these vessels are transmitted to writing levers acting on a moving film and are permanently recorded in the form of a polygram consisting of two synchronous curves.

The jugular curve of the polygram furnishes evidence of the action of the auricles and the radial curve that of the ventricles. By a comparison of the two, the sequence of the events in the two chambers is determined.

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In abnormal cardiac activity evidence is thus obtained of the presence or absence of auricular systole, the presence of supernumerary auricular systoles and of the time relationship between the systole of the auricle and that of the ventricle.

Its principle value is in the arrhythmias, since in this type of disorder there is a disturbance of the sequence of the events in the two chambers. It is also of value in the detection of alternation, auricular stasis and tricuspid insufficiency.

The electrocardiogram is based upon the fact that an electric current is generated with each contraction of the heart. This current is lead off from the surface of the body by any one of three pairs of contacts or leads. The first lead is the right arm and the left arm; the second the right arm and the left leg; and the third is the left arm and the left leg. The current thus derived is conducted through a very fine wire suspended in a powerful magnetic field. The passage of the current through the wire causes it to be deflected across the magnetic field, the extent and direction of the deflection depending upon the strength and direction of the current. The wire is illuminated by a strong arc light, its shadow is magnified by microscopes and projected upon a moving photographic film. A permanent record of its oscillations is thus obtained and is known as an electrocardiogram.

The electrocardiogram, then, is a curve composed of various deflections which closely correspond to the various events of the cardiac cycle. Its two main divisions are the auricular complex, or a small wave occurring with auricular systole, and the ventricular complex or a series of waves which accompany the systole of the ventricle.

In health the curves from different individuals, when obtained by a given lead, conform to a general type known as the normal, and any deviation from the normal type is to be considered as indicative of cardiac change. These deviations from the normal have been grouped into special types and experimental evidence has revealed that each special type is characteristic of a certain cardiac change and hence is of diagnostic value.

While grave myocardial disease may exist without yielding upon electrocardiographic examination curves which may be called abnormal, many disorders give definite and conclusive evidence of their existence. Conspicuous among these are the arrhythmias. It permits the accurate determination of the presence of auricular fibrillation and auricular flutter. Beats or series of beats, as extra systoles, and paroxysmal tachycardia, are identified and their sites of origin determined.

The various grades of heart block are shown, some of which are not recognizable without the use of graphic methods. Occurring in acute infections, these disturbances of conductivity may furnish the first evidence of myocardial invasion.

Rather recent clinical and experimental work has revealed that not only may the power of conduction of the bundle of His be impaired or destroyed in heart disease, but that also the inflammatory and degenerative changes may extend from the myocardium and involve the branches of the bundle or their finer terminations in the Purkinje network producing a localized impairment of conductivity. Types of this impairment are known as bundle branch block and arborization block. Their presence indicates myocardial damage of a serious form, and, if permanent, adds to the gravity of the prognosis. Their recognition depends largely upon the electrocardiographic evidence.

This method does not give direct evidence of the presence or location of valvular heart disease, but in many instances will indicate a hypertrophy of the auricles or a relative hypertrophy of one of the ventricles. Such information may indirectly indicate the existence and site of valvular damage, and in this way lead to the discovery of or corroborate other physical findings.

Possibly the greatest contribution of this method has been its aid in the interpretation of the mechanism and significance of various cardiac abnormalities, which, prior to its use, were imperfectly understood.

Since the method is of rather recent development and many details of the curves are as yet imperfectly understood, it is altogether possible that it is capable of yielding information which we are at present unable to interpret. Future investigations may enhance its value in cardio diagnosis.

In conclusion, it is to be emphasized that disorders within the range of detection by use of the graphic methods are limited in number, and that the additional information afforded is more often of secondary and corroborative value than of primary importance. However, if consistently applied, their utilization will increase the percentage of correct diagnosis of cardiovascular disease, and will be of definite aid from the prognostic and therapeutic standpoints.

DISCUSSION ON SYMPOSIUM ON CARDIOVASCULAR SYSTEM

Dr. Campbell P. Howard, Iowa City—At present it is necessary for all of us to take stock of our knowledge or ignorance of cardiac physiology. There has been no more striking advance in the last

twenty years than that made in the study of cardiac physiology, and those of us who were taught twenty-five years ago have much to learn from the papers and publications of the English and recently of the American school of physiology. We therefore will look forward with a great deal of pleasure to reading in the *Journal* the first paper of the symposium. I need hardly say that the most important theory of cardiac physiology of recent years, and one which I think will hold for all time, is the myogenic theory, which is the basis of all our conception of cardiac disease as well as of cardiac physiology at the present time. It is also necessary for us to look back over our old text-books and review our knowledge of the events of the cardiac cycle. We see this daily in teaching students in the junior and senior years, but we see it still more often in our consultation work in the city and state, because many elementary facts have been forgotten by the average practitioner—at least that is the only explanation one can offer for a great many apparent clinical blunders. It seems to me that Dr. Mallory's paper is a timely one, and I was very much struck with his handling of the subject. If I may be pardoned for doing so, I would say that it is the way I would like to see it handled. It was not a list of symptoms and signs of any one cardiac lesion, but it was the proper approach to the whole subject of cardiac disease. In the treatment of cardiac compensation it does not matter, I believe, 10 per cent one way or the other whether the patient has mitral disease or aortic disease as long as we can recognize and determine the degree of muscle efficiency. Therefore in the teaching of clinical medicine in the past, a great deal of time has been wasted in attempting to show every type of valvular lesion to the poor medical student and expecting him to master the intricacies of auscultation of the various murmurs. We have our eyes and fingers even though we may have no other education, and often a painstaking analysis of the symptoms of the case with careful inspection of our patient and thorough inspection and percussion of the heart will tell us more than the stethoscope. While the stethoscope is an instrument of great value, it occupies a very secondary role in the diagnosis of cardiac disease. Another point in Dr. Mallory's paper which I wish to emphasize is the warning not to underestimate the value of clinical methods of cardiac diagnosis. This is the day of the laboratory man and he rides us and rides us very hard. We are much in the habit now of sitting in our offices and telling the patient that we will have this and that laboratory test made, and then folding our hands and waiting for the dictum to come to us from some laboratory, often when the man in charge of the work has never seen the patient. It is quite usual, even in electrocardiographic work, for the patient to be in the ward and the cardiograph 200 yards away, and yet we expect a God-inspired individual to tell us what is the matter with our patient. We see that method employed in so many other diseases that it

is time, I think, to sound a grave warning to the medical profession that they are the ones who should make the diagnosis, that they are the people who should estimate the degree of damage done to the heart muscle, and not the laboratory man. The laboratory man can give us a lot of aid in the prognosis of the progress of cardiac diseases, but he cannot sit in his laboratory and tell us what is the matter with our patient. The report is always of interest, is always of use, if properly applied. But we must say now that even in the hospital we are beginning to reserve our enthusiasm about laboratory diagnosis, and I think there is great danger that the electrocardiogram, the sphygmogram, and other things that we ask to be done for us, will too markedly tinge our conception of the case. Many of you in your experience in the army had occasion to note that the electrocardiographic expert was instrumental in causing to be discharged as unfit for service many men who had no signs of cardiac disease. In fact, I have been told that, in order to save the personnel in one camp, it became necessary to dismiss the cardiographic expert. Such a thing is a reflection on intelligent medicine, and I agree with Dr. Mallory that however important these methods are (and I am very sorry that Dr. Davis was not able to be present and show us how important they are), they do not occupy even second place in our armamentarium in diagnosis or in therapy. Dr. Treynor touched on everything I might say in regard to the therapy in these cases. Dr. Osler was always in the habit of saying that our first duty in the treatment of cardiac decompensation was to lighten the load. In illustration of this he used the homely simile of a coal cart loaded with a ton or more of coal, a tired horse trying to make its way up a steep hill and a brutal driver who, instead of lightening the load, takes his whip and slashes the horse until the animal falls or gives up its attempts. More often than not I find that we are slashing the tired heart with our digitalis and what not. Therefore it seems well to bear in mind that the first thing to do in cardiac decompensation is to lighten the load, primarily by purging through salines, secondly by venesection, and then when the time is ripe to apply the whip in the way of digitalis.

Dr. Walter L. Bierring, Des Moines—It is interesting when a clinician like Dr. Howard emphasizes the note of warning, contained in one of the papers, that we are thinking too much in a laboratory sense, and, on the other hand, that all these papers emphasize the need of closer attention to fundamental principles, particularly of physical examinations and the proper interpretation of the patient's symptoms. There are a number of features about the simple percussion and palpation of the heart that are of importance. The average examiner frequently misses the thrill which is so significant in the diagnosis of mitral stenosis. We should remember that this tactile fremitus is obtained better by the ends of the metacarpals than by the ends of the fingers because

the same interfere with the vibratory sense. Again, few realize that there is no way of determining by percussion the outline of the right ventricle. Percussion of the right border of the heart gives an idea of the condition of the right auricle, which is valuable if one has the proper conception of the curve of the right auricle. If there is no enlargement to be detected in the second or fifth space, it is thought that the right auricle is not enlarged, forgetting that the real enlargement is in the third and fourth space, consisting of a widening of the heart area to the right; furthermore, the shape of the cardiac enlargement is of considerable importance. A globular enlargement is always indicative of a mitral lesion; a pear-shaped enlargement suggests hypertrophy of the left ventricle and aortic disease. Enlargement of the right ventricle can often only be determined by properly estimating the relations of the diaphragmatic movements, with the change in intercostal angles. Sir Humphrey Rolleston of London, now a visitor in this country, recently gave a very interesting clinical demonstration of the relation of blood-pressure to aortic insufficiency, but calling attention to the rather significant contribution made by Leonard Hill, the physiologist, to the effect that the blood-pressure in the leg as taken by compression of the calf and determination of the dorsalis pedis pulse is usually double the systolic pressure as taken in the arm. The diastolic pressure is not influenced in the same way. This striking phenomenon contributed by a physiologist can be taken as a diagnostic sign of aortic insufficiency. Treatment in heart disease is only indicated when there are signs of heart failure, and the best treatment at all times is rest. The determination of auricular fibrillation, the most significant symptom of heart failure, is one of the distinct contributions made by the graphic studies, so in that way these methods have been a great help to the clinician. In the cardiac failure of acute infections, particularly in pneumonia, the indication for digitalis therapy is dependent on the recognition of auricular fibrillation. Digitalis is best given in several large doses rather than in continued smaller doses, and then only when indicated, is a principle to be followed in the treatment of heart disease. Rest is an essential treatment, but should not be carried out too long, particularly in the older patients the institution of graduated exercises or exercise in any form must be determined by the ability of the individual to react to physical strain or what the heart is able to bear.

Dr. Daniel J. Glomset, Des Moines—I do not believe that the State of Iowa suffers very greatly from an over-use of laboratory methods in the diagnosis and treatment of heart diseases. How many electrocardiographs are there in the state? I have not yet heard anybody mention the use of the x-ray in the diagnosis of heart lesions. Those of us who were in the army had a lot of experience with the x-ray in this connection. Even Cabot absolutely refuses to say whether a heart is enlarged or not with-

out using the x-ray. A roentgenologist, if present, will be able to tell you of a number of instances in which enlargement of the heart has not been recognized in patients by passing through the hands of a large number of competent men until the x-ray picture was taken. It seems to me that in the State of Iowa we do not yet suffer from the extensive use of these things, in fact, I think we could use them more.

Dr. Frank M. Fuller, Keokuk—I do not believe there is a disposition here to belittle the influence of the laboratory work in connection with any of these diseases. I find as I have sat here for the last two days that there is a tendency to consider the laboratory man as an adjunct, and as an adjunct only, and when we come to the point of considering laboratory work, whether in chest conditions or what not, it is as an adjunct in the accomplishment of our work. In doing our work we must mix the laboratory work with brains, then we can get the diagnosis. There is one other point, which is this: We have a symposium upon the heart. Too many of us divide our patients up into regions. We have the upper right quadrant and the lower right quadrant, we have the heart and liver and spleen. I think we must catch the point that was made by one of the essayists that cardiovascular conditions oftentimes depend more upon conditions outside the heart than in it; in other words, not only the circulation, but every organ and element of the body. The habit, the mind, must be taken into consideration in connection with our heart diseases, and many times if we consider our patients as a complete entity we then find that we are getting results. There was an illustration today of emphasis being put upon recumbency and rest in fracture cases, and a gentleman sitting near me called your attention to the fact that is commonly known to all of us, that if fracture cases in elderly people are put to rest for a long period of time, when they get up they are prone to dilatation of the heart, merely emphasizing this fact: When treating a fracture you are treating a human being, you are treating a human being with organs and functions. You must never get away from the fact that when you are treating the leg you must treat the heart, and when you are treating the heart you must be treating the stomach and the circulation, that is, you must be giving consideration to these elements. Another point is this: While rest has been emphasized as one of the big factors in connection with the treatment of this disease, we must broaden our idea of rest. Rest does not mean merely a recumbent position of the body; it means a rest of function, and if you allow your patients to go on without a careful, thoughtful study of what they are going to eat and how often they are going to eat, you can put all the rest and all the digitalis and all the other factors at work and forget what and how often they are eating, and you will continue to have decompensation unrepaired.

Dr. Walter E. Scott, Adel—I like the thought of the last speaker who considers the patient as a whole. Probably many of you have read the reprint that

was recently sent out by Dr. Hugh Patrick on "The Patient Himself." There were some very good points in that paper. So on this topic it is wise to consider the patient himself as much as or more than his disease. It seems to me that in the consideration of this subject we are omitting some etiological factors, in that most of these cases that are not due to infection are the results of a toxemia, they are due to conditions in the system which result in a toxemia, the normal end products of digestion and assimilation are not attained and toxins are developed which produce the disease. Another name is suboxidation. Again, absorption of toxins from the large bowel may be responsible for many of these conditions, which may be bacterial or chemical or both. Through the influence of sunlight vegetable tissues are built up. In animals, by oxidation tissues are torn down. There is a normal building up process and a normal tearing down process. In the abnormal tearing down process, abnormal union of elements produces toxins on the return of the elements to soil, air and water from whence they came, and these substances that have not developed into normal and end-products accumulate in the system and produce their dire results. And here I might say that I think eating three times a day just as a matter of habit, is the most pernicious thing that we can do. We do not wait for hunger—we eat, and eat all we want regardless of the requirements of the system. And herein is a cause of many of the toxins which cause high blood-pressure, heart disturbances, etc. We must consider these factors and get back to an etiological basis in the treatment of this disease, regulating the diet, elimination, getting rid of colitis, etc., and then seek to increase the muscular power of the individual so that there may be a greater amount of blood in the muscles and in the skin, and bring about dilatation of the superficial capillaries (and thus relieving the pump) by the use of radiant heat and light. It does not seem to me that we lay enough stress upon physical therapeutics in the treatment of these diseases. The effect of radiant heat and light is to dilate the superficial capillaries as well as the blood-vessels in the muscles, to apply heat and promote oxidation, and it relieves the strain on the pump. You talk about giving digitalis, strychnia, etc., which are very important, but these other things are just as important. We have to consider the patient as a whole, not treating the disease that has the patient only, but also treating the patient that has the disease.

Dr. C. F. Wahrer, Fort Madison—As our patient has now passed through the tribulation of the first three essayists, he is probably ready for the last, and that is therapy. Notwithstanding that Dr. Bierring is present and heard me say in New Orleans what I will say here, I shall take the risk of his laughing at me and say it again. When you prescribe for your patient, you should be sure that he gets what you are prescribing; or if you give it yourself, be sure

that he gets what it is your intention to give him. This taking for granted that the principal therapy will consist of the digitalis family, either digitalis proper, strophanthus, cratægus, oxycanthus, squill, or some other member of the digitalis group, the principal one of these, in spite of the fact that we have been hunting for substitutes not so disagreeable as digitalis, still maintains its place in the therapeutic spot-light and continues to be the main part of our armamentarium to combat these terrible diseases. And I want to say to you, and you will agree with me, that no therapy yields such precious and beautiful results for the relief of our patient and for our own satisfaction and comfort, as digitalis properly applied. But when you are prescribing digitalis and your patient gets slop or swill, you have no right to expect the benefits of your calling in that case. This is the point I want to especially emphasize. What is digitalis? We are offered digitalin, we are offered digipuratum, digitoxin, digitalein, and often a combination of these under some private name and under different names. Digipuratum may be good, but you cannot always obtain it. You know that we have the different kinds of digitalin: We have the German and the French, the Chinese and the Choctaw and several other kinds, and they have different strengths, and you have the pure digitalis and the preparations made therefrom. They do not all have the same frog or other bases of strength, hence units, they do not all have the same effect, you give the one kind and you get the results you want, you give another and you run short, you give still another and the patient is poisoned and begins to vomit. I make a plea that you investigate what you are giving, I make a plea that you give a standard of some pure and useful drug which has given you signal results, as much so as quinin in malaria and mercury in syphilis. Therefore I want you to learn to know what digitalis is and see that you get it. Sir James Mackenzie told me that he had no trouble in getting good digitalis. But doctors who do not know what they are getting and are solely guided by the man who comes to the door and tells them the kind of digitalis his firm is manufacturing, do have trouble, and, worse still, their patients have trouble. Did you ever see a patient enduring the terrible torture of a decompensated heart, struggling for breath? You could hear them half a block away—"help, help, give me breath." Then insist upon having a good digitalis, and, one more thing, learn how to use it. Then you will have the happiness, and your patient, the comfort of relief from the most terrible struggle man is heir to in his battles with disease.

Dr. D. S. Fairchild, Clinton—I suppose one who is not profoundly read on these subjects may be entitled to a word about them. We who are engaged in industrial work have some problems come up to us in which it is necessary to have the opinion of a medical man, and Dr. Howard has been especially kind in helping me out of some difficult places.

Twenty-five years ago we began to examine all our classified employes as to their fitness to remain in the service of the railroad company, and we found that a certain number of the cases re-examined manifested symptoms of heart trouble, such as valvular lesions. This is the practical side of the question. With as much thoroughness as my limited understanding of the subject would permit I have looked into the question of heart examinations, and I find that many men were disqualified from the service because of valvular lesions who did not really have an incompetent heart at all. So I have listened with interest to the reading of these papers which are so scientific as to be beyond my comprehension, and yet they have a practical bearing, and it is the practical side that we as industrial surgeons have to consider. Now, if this scientific study hasn't any practical value, of what worth is it? I imagine that is the purpose of those discussions to show the practical bearings of scientific study.

Dr. Mallory—I have appreciated the discussion very much. I do not want to give the impression that I am trying to scrap the laboratory, for I appreciate the laboratory as well as every other kind of diagnostic and therapeutic aid. Referring to Dr. Howard's remarks, we know that at present the scientific side of medicine is being over-emphasized, and I think if this work was placed in the hands of a good clinician he would be able to correlate the clinical and laboratory findings.

THE SIGNIFICANCE OF HEMATURIA— REPORT OF 46 CASES*

EDWIN G. DAVIS, M.D., F.A.C.S., Omaha, Nebr.

Blood in the urine is an indication of a pathological condition of some portion of the urinary tract. It is not a clinical entity requiring treatment, but a symptom demanding investigation. In spite of numerous publications emphasizing this fact, there is a tendency for the medical profession to temporize with this condition, to treat without diagnosis, and to consider a cessation of bleeding as an indication of cure. This is largely due to the fact that hematuria is usually intermittent in character. During the free interval, while the patient is apparently in perfect health, it is not surprising that both patient and physician should minimize the importance of this danger signal. It is at this time, while there is yet a possibility of cure, that the best opportunity for investigation and diagnosis is afforded.

Kretschmer, in an analysis of 238 cases of hematuria, showed that the vast majority of these were due to the three causes—tumor, tu-

berculosis and stone, the relative frequency being in the order named. Fifty per cent of the entire series was due to the single cause—tumor, including, of course, tumor involving any portion of the urinary tract. Excluding such causes as nephritis, trauma and urethritis, it is then within reason to consider that in any given case of hematuria the chances are one to one that the underlying cause is a new growth involving some portion of the urinary tract. To overlook this warning is to miss the opportunity of rendering a service to the patient at a time when treatment could be beneficial.

Consideration of the following table, including 46 successive cases of hematuria, shows a surprising relative frequency of the three diagnoses, tumor, stone and tuberculosis. Other causes are comparatively insignificant in number. Excluding the five undiagnosed cases, there remain forty-one hematurias in the above series, seventeen of which were due to the single cause, tumor. This one fact is ample justification for early and complete investigation. Consideration of the end results shows that twelve were unimproved (excluding the five refusing treatment), eleven were improved and eighteen were classed as well. Therefore, out of a series of forty-one cases, twenty-nine were either cured or distinctly improved by thorough investigation and appropriate treatment. Of the twelve unimproved cases, five were not diagnosed and six, on account of delayed investigation, were inoperable at the time first seen. It is quite worth while to note that it was possible to distinctly benefit three-fourths of these cases.

This paper is not intended as a text-book enumeration of the various possible causes of hematuria. It is limited to a brief consideration of the few more frequent and more important conditions which are met with in everyday practice, and which lend themselves to treatment when diagnosed at an early stage. Excluding nephritis, trauma and urethritis, the chief causes of hematuria may be best classified, according to symptomatology, as follows:

1. Symptomless hematuria.
2. Hematuria with renal colic.
3. Hematuria with bladder symptoms.

SYMPTOMLESS HEMATURIA

This term includes those cases with profuse, spontaneous hematuria, usually intermittent in character, and accompanied by no pain and by no other symptom, either urological or systemic in character. These patients are apparently in perfect health and are, therefore, of the type most

*From the Department of Urology, University of Nebraska College of Medicine.

TABLE SHOWING END RESULTS IN 46 SUCCESSIVE CASES OF HEMATURIA, CLASSIFIED ACCORDING TO ETIOLOGY

No. Age Main ad- ditional symptom			Diagnosis	Remarks	Treatment	Result
Tumor 17	35	None	Hypernephroma, rt.	Op. contraindicated by pt's age	None	Unimproved
	85	None	Hypernephroma, rt.	Op. contraindicated by metas.	None	Unimproved
	6766*	Renal colic	Hypernephroma, lt.	No recurrence after 8 mo.	Nephrectomy	Improved
	6744*	None	Papillomata bladder	No recurrence after 14 mo.	Fulguration	Well
	63	None	Papillomata bladder	No recurrence after 14 mo.	Fulguration	Well
	336	None	Papillomata bladder	At present under treatment	Fulguration	Improved
	144	Dysuria	Papillomata bladder	Suprapubic cystotomy necessary	Fulguration	Well 12 mo.
	205	Frequent urination	Papillomata bladder	Fulguration advised	None	?
	130	Tenesmus	Carcinoma bladder	Localized, anterior wall	Resection	Well 14 mo.
	133	Gas per urethra	Carcinoma bladder	Enterovesical fistula	None	Died
	176	Frequent urination	Carcinoma bladder	Inoperable	None	Unimproved
	6751*	Retension	Carcinoma bladder	Localized, lateral wall	Resection	Well 6 mo.
	3	Dysuria	Carcinoma prostate	Invaded seminal vesicles	Suprapub. prostatec.	Unimproved
	67		Carcinoma prostate	Inoperable	None	Unimproved
	6176*	Frequent urination	Prostatic hypertrophy	Hematuria profuse	Per. prostatec.	Well
	6748*	Frequent urination	Prostatic hypertrophy	Large intravesical lobe	Per. prostatec.	Well
	6780	Frequent urination	Prostatic hypertrophy	Large intravesical lobe	Per. prostatec.	Well
Stone 12	32	Lumbar pain	Renal calculus, rt.	Numerous small calculi	Nephrectomy	Well
	208	Lumbar pain	Renal calculus, lt.	One large calc. in pelvis	Pyelotomy	Well
	266	Lumbar pain	Renal calculus, lt.	Large branching calculus	Nephrectomy	Well
	6204*	Urethral pain	Vesical calculus	Contracture vesical orifice	Suprapub. cystot.	Well
	6852*	Dysuria	Vesical calculus	Benign prostatic hypertrophy	Suprapub. cystot.	Well
	7	Ureteral colic	Ureteral calculus	Calc. lodged.—Op. refused	None	?
	245	Ureteral colic	Ureteral calculus	Cystoscopy refused	None	?
	297	Ureteral colic	Ureteral calculus	Cystoscopy postponed	None	?
	145	Ureteral colic	Ureteral calculus	Calculus passed	Uret. dilatation	Well
	289	Ureteral colic	Ureteral calculus	Calculus passed (?)	Uret. dilatation	Well
	295	Ureteral colic	Ureteral calculus	Calculus passed	Uret. dilatation	Well
	327	Ureteral colic	Ureteral calculus	Hydroureter above stone	Ureterolithotomy	Well
	39	Frequent urination	Vesical tuberculosis	Tuberculous epididymitis	Epididymectomy	Unimproved
	6724*	Frequent urination	Renal tuberculosis, lt.	Left kidney functionless	Nephrectomy	Well
	6177	Frequent urination	Renal tuberculosis, lt.	Left kidney functionless	Nephrectomy	Well
	6754	Frequent urination	Renal tuberculosis, lt.	Bladder symptoms persisted	Nephrectomy	Improved
	6797	Renal colic	Renal tuberculosis, rt.	Right kidney functionless	Nephrectomy	Well
Tuberculosis 7	28	Frequent urination	Renal tuberculosis, rt.	Bladder symptoms persisted	Nephrectomy	Improved
	98	None	Renal tuberculosis, lt.	Nephrectomy refused	None	?
	47	None	Pyelitis bilateral	Bleeding ceased after 1 inj.	Pelvic lavage	Improved
	6059*	Frequent urination	Pyelonephritis, left	Left kidney functionless	Nephrectomy	Improved
	6679	Frequent urination	Pyonephrosis, right	Right kidney functionless	Nephrectomy	Well
	229	Albuminuria	Acute nephritis	Other symptoms of nephritis	Medical tr't.	Improved
	197	Frequent urination	Bladder ulcers	Etiology unexplained	Instillations	Improved
Inflammation	33	Frequent urination	?	Source, left kidney	None	Unimproved
	216	None	?	Cystoscopy negative	None	Unimproved
	284	Weakness	?	Right kidney functionless	None	Unimproved
	307	None	?	Lowered function lt. kidney	None	Unimproved
	33	None	?	Ceased after uret. cath.	None	Improved
Unexplained	33	Frequent urination	?	Source, left kidney	None	Unimproved
	216	None	?	Cystoscopy negative	None	Unimproved
	284	Weakness	?	Right kidney functionless	None	Unimproved
	307	None	?	Lowered function lt. kidney	None	Unimproved
	33	None	?	Ceased after uret. cath.	None	Improved
	33	Frequent urination	?	Source, left kidney	None	Unimproved
	216	None	?	Cystoscopy negative	None	Unimproved

*From the records of the Brady Urological Institute, Johns Hopkins Hospital.

apt to postpone investigation. In a given case of symptomless hematuria, the underlying cause will usually be found to be one of the four conditions, papilloma, hypernephroma, pyelitis, or "essential" hematuria.

Papilloma—To be able to make an early diagnosis in cases of bladder papilloma is particularly gratifying because this condition lends itself so readily to simple treatment. Almost always the sole symptom is intermittent hematuria. Cystoscopic examination reveals one or several small, delicate, arborescent growths springing from the mucosa, usually in the region of the ureteral orifices. The treatment is fulguration with the high frequency current through the ordinary cystoscope, without anesthesia. Benign papillomata disappear with marvelous rapidity and completeness under this treatment. Fulguration becomes difficult and unsatisfactory in those cases where the tumor has undergone malignant changes or where the papillomatous growth has become so extensive as to materially lessen the bladder capacity. After surgical interference, the tendency of these tumors to implant themselves upon other portions of the bladder wall and in the incision, is well known. Histological differentiation between benign and malignant papillomata is difficult, and cystoscopic differentiation practically impossible. The latter, however, is non-essential, because the treatment for all tumors of this type is fulguration, those responding readily being classed as benign. Geraghty has pointed out that radium is a valuable aid in those cases where fulguration is unsatisfactory. Early cystoscopy in these cases offers a simple efficient treatment and a permanent cure.

Hypernephroma—The so-called hypernephroma, the exact origin and pathological classification of which is still a matter of controversy, is by far the most frequent renal tumor. Its malignancy, its tendency to metastasize and to involve the renal veins and surrounding tissues by direct extension, is well known. Here again, hematuria is usually the sole early symptom. A mass in the side is rarely palpable before the tumor becomes inoperable. Early diagnosis must be based upon hematuria and upon a differentiation in the functional ability of the two kidneys, as determined by ureteral catheterization and the phenolsulphonephthalein test. The x-ray is sometimes of value in showing the tumor itself, or in demonstrating metastases in the lungs, thus sparing the patient a needless operation. Renal tumor, in its early stages, is particularly apt to escape detection because there is often no impairment of renal function on the affected side. Intermittent, unilateral

hematuria in a patient past forty years of age is, therefore, sufficient justification for exploratory incision even though further evidence be lacking.

Pyelitis—Under this heading may be included simple pyelitis and other more extensive inflammatory changes in the kidney which may produce hematuria. Chronic pyelitis, characterized by varying numbers of pus cells and organisms (usually colon bacilli) in the urine, with or without intermittent hematuria, may exist over long periods of time without pain or fever or other symptoms. The kidney retains its normal functional ability. The hematuria may usually be controlled by injections of silver nitrate into the renal pelvis, one injection often causing immediate cessation of symptoms.

"Essential" Hematuria—This term is in reality an evidence of our limitations in diagnosis. The condition might be more aptly termed "unexplained" hematuria. Competent observers have reported negative findings in the examination of these kidneys after nephrectomy. Others have recorded inflammatory changes in the renal papillæ or in the kidney substance itself. We must recognize that at the present state of our knowledge there must remain a few of these cases undiagnosed and unexplained. The number of "essential" hematurias constitutes a very small minority.

HEMATURIA WITH TYPICAL RENAL COLIC

These two symptoms occurring together usually mean ureteral calculus. While there are other diagnoses, the present consideration will include this condition only. Given a case of suspected ureteral calculus, it is the duty of the physician to demonstrate that the ureter is not blocked. If all the urine passed during the few days immediately following the attack is saved and strained, the discovery of a minute calculus may remove all doubt as to the safety of the kidney on the side in question. As is well recognized, a large percentage of ureteral calculi fail to cast a shadow with the x-ray. In this event the diagnosis may be confirmed by the passage of a wax-tipped ureteral catheter.

Treatment should always be palliative at first. It is a matter of common knowledge that the greater number of ureteral calculi pass spontaneously. It often happens that the simple insertion of a ureteral catheter will be followed by the descent of the calculus. The passage of calculi lodged in the intramural portion of the ureter may be aided by various procedures carried on through an operative cystoscope. As to the question of surgery, there is one definite and distinct

indication for operative interference; namely the demonstration by means of a ureterogram, of a dilated ureter above the calculus. This is a very simple procedure carried out by injecting an opaque solution through a ureteral catheter past the calculus.

The importance of diagnosing and removing impacted ureteral calculi is duly impressed when one sees patients who give a history of recurrent attacks through years, and in whom investigation reveals, above the calculus, a hydro-ureter and a hydronephrosis with a complete destruction of renal tissue. Here the kidney must be sacrificed where ureterolithotomy would have sufficed.

While considering this subject it is well to mention that pain in the right side does not always mean appendicitis. A fair percentage of patients with long-continued, right-sided pain, ultimately diagnosed as renal or ureteral in character, have had previous appendectomies without relief of symptoms. To quote Braasch, "fully half of the patients with right renal and ureteral lesions whom I have observed have had previous operations on adjacent organs."

To subject a patient to an unnecessary appendectomy is often an unavoidable error, which, though it is to be regretted, need not in itself be of serious consequence. Of graver import, however, is the failure to recognize the possibility of gradual renal damage in cases of undiagnosed lumbar or abdominal pain, unimproved by appendectomy. Cecil reports that of sixty-seven cases of renal and ureteral colic the pain was entirely abdominal in character is 28 per cent, and 20 per cent of these patients had had abdominal operations.

HEMATURIA WITH BLADDER SYMPTOMS

Included under this heading are those cases in which the hematuria is associated with frequent, difficult or painful urination. Leaving out of consideration acute inflammatory conditions, the diagnosis in by far the greater majority of patients presenting this symptom-complex will be one of the triad, carcinoma, stone or tuberculosis.

Carcinoma—If the patient is past middle age this train of symptoms suggests carcinoma of the bladder. The diagnosis may sometimes be established by simple rectal examination because these tumors, when extensive, invade the bladder wall, and often an induration of the base of the bladder may be palpated. The diagnosis may be confirmed by cystoscopy. Treatment of advanced cases is, of course, very unsatisfactory. There is no condition more distressing. Early diagnosis by cystoscopic examination shortly after the on-

set of symptoms offers a good opportunity of cure by complete excision. The value of radium in the treatment of carcinoma of the bladder remains as yet undetermined.

Stone—The symptomatology of bladder stone is not essentially different from that of tumor. There is a tendency to temporize with this condition and to treat with bladder irrigations, without diagnosis. The single passage of a sound sometimes suffices for diagnosis. Most, but not all, vesical calculi cast a shadow with the x-ray. Cystoscopy is the most satisfactory method of diagnosis.

It should be borne in mind that the treatment of bladder stone includes not only the removal of the stone but also the removal of the cause of the stone. There is usually an associated residual urine produced by an obstructing prostate or by a contracture of the vesical orifice, or perhaps by a bladder diverticulum which will cause a recurrence of the calculus unless relieved. Small calculi may, of course, be removed by the lithotrite and the patient be thus spared a major operation.

Tuberculosis—It is not generally appreciated that renal tuberculosis is often the cause of profuse hematuria. In fact this is sometimes the sole symptom, although there are usually associated bladder symptoms, particularly frequency. With very few exceptions, the primary focus in bladder tuberculosis is renal, and ureteral catheterization, with differential functional test, is therefore indicated. The tubercle bacillus stain and guinea pig inoculation should never be neglected in any patient presenting bladder symptoms where the diagnosis is not clear-cut. Braasch has shown that the x-ray produces typical shadows in about 20 per cent of cases of renal tuberculosis. It is generally conceded that the treatment of renal tuberculosis is nephrectomy, provided the other kidney is sound and provided there are no other demonstrable foci of active tuberculosis elsewhere in the body.

SUMMARY

Of forty-one diagnosed hematurias, thirty-six were due to one of the three causes, tumor, stone, tuberculosis; and seventeen of these were due to the single cause, tumor.

Of forty-one hematurias submitting to treatment, twelve were unimproved (five of these were undiagnosed and six inoperable), and twenty-nine were either improved or cured.

In those cases of hematuria presenting themselves early for investigation, splendid results may be obtained, and a very high percentage of cures. In many instances, such comparatively

simple measures as fulguration, litholapaxy, ureteral dilatation, or lavage of the renal pelvis will be found adequate. Major operations, such as cystotomy, prostatectomy, bladder resection, ureterolithotomy, pyelotomy or nephrectomy should be unhesitatingly employed when indicated.

The average intelligent woman of today has come to regard the appearance of a lump in the breast or bleeding from the uterus as a warning signal of malignancy. In view of the high percentage of tumor as the underlying cause of blood in the urine, this same publicity might well be given to the significance of hematuria.

670 Brandeis Theatre Building.

FEET POTENTIAL SEAT OF FATIGUE

W. V. M. GERARD, Podiatrist, Cedar Rapids

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The condition covered by this article relates to a considerably neglected subject, "foot fatigue," and to its interpretation as regards to the industries specifically. The condition termed "fatigue" being largely synonymous with poor work, poor execution of detail work, absence from work, inefficiency, *summa summarum*, decrease of wage earning capacity.

The foot, it must be admitted, has always been known as a potential seat of general fatigue, but, unlike every other part of the human body, its diagnosis and scientific care have been indefinitely side-tracked.

PERCENTAGE OF FOOT DEFECTS ALARMING

It may be of interest to know that statistics of medical examining boards serving on regular and selective service recruiting stations, have disclosed that there were about 45 per cent defective feet, which cases had to be assigned to development battalions, and 25 per cent rejections because of static foot ailments.

The department of safety's report of one of the largest cities in the east, stated that about 60 per cent of the uniformed force doing patrol duty, have contracted foot disorders during a service period of from twelve to fifteen years, while the annual report by one of the officials making a survey in educational hygiene of students of a middle western city, indicated that among 395 girls 85 had acquired *pes planus*, i. e., flat foot; 98 cases were ankle valgus, and 9 had both of these conditions, while the foot condition among the boys corresponded in percentage equally.

The increase in foot defects is also demonstrated in the increase in the manufacture of so-called "orthopedic and anatomic" shoes, and in the large sale of the "commercial arch supporters" purporting to serve as a "panacea" for all foot defects irrespective of their cause.

FOOT SANITATION AN IMPORTANT FACTOR

This rather startling condition demonstrates explicitly that supervision of the care of the pedal extremities can not be underestimated as an important element and means of sustaining a high rate of industrial efficiency and as a medium of lowering and minimizing the number of discharges from employment resulting from said ailments.

INDUSTRIAL FOOT EFFICIENCY

When the working man, whether he wears the proverbial "overalls" or the "white collar," accepts employment at the shop, yard, factory, mill, store or office, he is expected to render services commensurate with the amount of pay received, but if he contracts certain physical ailments, such as "foot defects," or has contracted same previously to entering the employ, and if said ailments interfere with efficient discharge of his duties and render him incapable of continuing his services to the satisfaction of his employer, he will be reduced in pay, or perhaps face the inevitable, discharge.

It is evident *per se* that employes are required to be in good health, which also includes sound feet, in order to stand hardships and to attend to their daily routine of duties they are expected to perform by reason of their employment agreement or contract.

But what if their feet hurt?

The indoor employe is generally confronted with hard wood or cement floors to walk or stand on, while the worker in the field is exposed to climatic changes. In the summer months the pedal extremities swell, while during the rainy season or winter, heavy rubber boots are surely not factors beneficial to the already abused agents of locomotion.

HORSES FEET HAVE CARE—HOW ABOUT OUR OWN?

The horse is sent to the blacksmith at certain intervals, and the veterinary surgeon is called in whenever symptoms of lameness are evident. But the human foot is shamefully neglected and abused in spite of all of our "safety first" propaganda and rules on prophylaxis in its "fifty-seven varieties."

What a strange anomaly.

MOUTH HYGIENE FIFTY YEARS AGO AN UN-SCIENTIFIC ENTITY

Dental surgery fifty years ago was an unknown quantity, and the teeth were neglected then in the very same way, permitted to decay, thereby becoming the seat of focal infection, as the pedal extremities—the locus of foot fatigue—are being abused and maltreated today, the twentieth century of enlightenment and scientific progress.

SCIENCE'S DAWNING TARDY, BUT CERTAIN ITS PROGRESS.

Science's dawning, history tells us, has always been tardy and its progress slow but certain. The "barber of yesterday" is the surgeon of today; the "tonsorial artist of 1849," is the dentist of 1919, while the "corn doctor" of half a decade ago is the podiatrist of 1920.

MILITARY FOOT SANITATION

Today it is not necessary any longer to prove by argument or word of mouth the necessity of foot care as an eminent factor to keep an army in a high standard of efficiency, and to increase their fighting capacity.

Data collected at the various camps have shown that foot defects are omni-present, due to various causes to be set forth elsewhere. Paradoxically the world war, has accomplished much to arouse the people at large to the need of scientific foot care. In view of the fact that statistics in journals have been so complete with information relative to this phase, an extensive resume of these findings in further support of these statements would be out of place.

FEET THE FOUNDATION OF THE HUMAN STRUCTURE

The human foot being a mechanical structure consisting of various bones, tendons, muscles, ligaments, nerves, etc., carries the entire body, yet, if these bones or even a single bone is out of adjustment or not in proper relation to another, we are confronted with practically the very same task as the architect with the house with the faulty foundation.

FAULTY WEIGHTBEARING VS. ANATOMICAL AND FUNCTIONAL UPSETTING

Nature intends us to "toe in," keeping our feet in a position of adduction and inversion, but whereas, mankind insists on walking or standing in a manner objectionable to nature, or if we wear shoes which rob the foot of its proper functions, then takes place a weakening of these

muscles, tendons and ligaments—a functional and anatomical disturbance—a gradual pronation or "flattening" of the various arches or decrease of "arching power" to be more accurate, resulting in what is termed weak foot, *pes planus*, i. e., flat foot and *pes cavus*, also foot neuralgias of various forms and degrees.

ARCHING POWER OF FOOT ACTS AS "SHOCK ABSORBERS"

Nature provided us with arches acting as springs to break the jar whenever the foot touches the ground, but instead of using these arches as nature wanted us to do, we have blindly followed "dame fashion" and "toed out" and also walked on the internal lateral border of the feet contrary to the mechanical principles of foot motion.

In order to overcome certain painful foot conditions, we have been educated by alluring advertisements and window displays to wear "stock arch supporters" of "pattern type," predisposing to muscular atrophy, periostitis and inflammatory joint conditions.

A NUMBER "NINE" FOOT INTO A NUMBER "SEVEN" SHOE

Years ago when stock shoes and shoe stores were unknown, and the old-time shoemaker made the shoes and made them to fit the foot, only a minor percentage of foot defects prevailed.

At present conditions are exactly reversed.

Feet are nowadays made to "fit the shoe" and shoes are being purchased to "fit the eye," because of a certain precedent and established custom from which it seems hopeless to entangle.

The average stock shoe, whether it is purchased on fashionable Fifth avenue of the great metropolis, or in the little town of "Mad Dog Gulch, Arizona," requires a certain amount of "breaking in," and this "process" of "breaking in" an improper fit or last, is predisposing to corns, callosities, excrescences, venous and arterio congestion, edematous conditions, *in toto*, it prevents the foot from proper functioning.

In justice to the shoe man it may be added that the great majority of people, especially women, insist on purchasing "short shoes," pointed toes and high heels (*Sub rosa*).

It is also a foregoing conclusion, that ill fitting footgear is conducive to neuralgias and various forms of static and mechanical disturbances in the foot.

HEALTH MOST VALUABLE ASSET OF NATION

It is a deplorable fact that mankind has raised a race of "foot weaklings" because of the fash-

ion, style, neglect and ignorance of the subject of foot care.

Today, nature is unable to cope with these foot ills, as time and mode of living have greatly changed.

Foot fatigue, as stated in a preceding chapter, is synonymous with weariness, exertion, poor work, poor execution of detail work, absence from work, poor pay and eventually loss of employment.

ETIOLOGY OF FOOT AILMENTS

The causes of foot defects may be grouped briefly as follows: (a) Dermatological; (b) Static; (c) Infectious; (d) Traumatic.

Improper footwear, excessive use of muscles, lack of muscular development, improper posture and ignorance of the subject matter of foot care, are the principal factors bearing on the above, while foot cases of focal origin form a large percentage, especially after epidemics.

SECRETARY N. Y. STATE MEDICAL EXAMINERS PIONEER OF SCIENTIFIC FOOT CARE

In face of this alarming percentage of foot defects, the general practitioner being already burdened with many problems of modern science requiring his undivided attention, one Dr. M. J. Lewi, professor of medico-jurisprudence and secretary of the N. Y. State Medical Examining board for the past twenty-five years, resigned his office to reorganize a school where "podiatry" ("podos-foot," and "iatreia heel"), the scientific care of the foot in health and in disease is now being taught by some of the leading men of the profession, this institution being duly chartered by the regents of the University of the State of New York.

New York takes initial step in organizing a foot clinic; a foot department in orthopedic hospital, and in appointing a podiatrist to police force.

The First Institute of Podiatry of N. Y. has just opened a foot clinic, registered by the state board of health and chartered by the department of health and public charities of the city of N. Y., caring for those unable to pay for services rendered.

The Hospital for Deformities and Joint Diseases has installed a separate foot department created by Dr. H. W. Frauenthal, the medical director of said hospital, while the police commissioner of the City of New York has seen fit to appoint a podiatrist to lecture on foot care and attend to the foot sanitation of the force.

Thus authorized examples have been set. Ten

years ago the very discussion of this would have been a target of ridicule.

ANTE AND POST-WAR STANDARDS OF FOOT HYGIENE

Scientific foot hygiene has opened a new avenue, a new branch of the healing art; every man should familiarize himself with the fundamental principles of correct footwear and foot sanitation, as the organs of locomotion should be free from defects as science can possibly make them.

And while podiatry has opened a new field of great service to the community, its manifold requirements and grave responsibility incurred, should not be underestimated.

When war standards of foot hygiene will prevail in the industrial army, then foot fatigue will be reduced to a minimum or negligible quantity, and industrial foot efficiency will be tantamount to industrial increase in production, which is equivalent to better work and working conditions, thereby increasing materially the employee's wage earning capacity.

Foot care is still in its very infancy. As mentioned in an aforesaid chapter, the late war has done a great deal to arouse the public to the need of scientific foot care, but in order to effectively propel this subject matter to the front ranks, there will be necessary a campaign of educational propaganda along dignified lines, with undivided support of the medical profession, educators, instructors in physical culture, heads of educational institutions, employers, and above all those media which so public spiritedly spread the gospel of new discoveries and new methods of treatment, etc., the medical press.

May, 1920, Cedar Rapids, Iowa.

THE FOUNDATION FUND OF THE TRI- STATE DISTRICT MEDICAL SOCIETY

A Community Trust Fund for the Advancement of Post-Graduate Medical Education and Preventive Medicine in Illinois, Iowa and Wisconsin.

HENRY G. LANGWORTHY, M.D., Dubuque

The Tri-State District Medical Society of Illinois, Iowa and Wisconsin, although young in years, is one of the unique medical organizations of the country. The society has had the courage to boldly develop and follow a new idea in medicine, namely to successfully carry out a remarkable university extension course in post-graduate medicine directly to the profession of the smaller communities. Believing that there were already

too many mutual admiration societies in existence, and recognizing the difficulty of doing the bigger practical things without funds, the society centered the best business, banking, professional and legal brains possible on its problem and from such conferences originated a definite plan and started a foundation (endowment) fund of ultimate not less than \$100,000, the income of which would gradually enable the society to carry out the practical aims and ideals adopted. That it is doing these things one has only to ask almost any member of the profession in these three states to be fully convinced. The society is now asking the financial support of every member of the profession to complete its initial endowment so that the permanency of its work may be assured. It is surprising also the interest that the general public of the smaller communities has taken in the meetings when held in Freeport, Dubuque, Madison, Waterloo, Rockford, etc., and how generously the public has availed itself of the opportunity of hearing our greatest American teachers that the society brings together in such places for the meetings. The organization is purely an educational one, exercises no legislative functions, bars medical politics and is open to any reputable physician who is a member of his county medical society. Office seeking is also out of style in the organization, unless a physician can render an actual service along some line better than any one else.

THE FOUNDATION FUND A MODERN COMMUNITY TRUST

A brief explanation of the Foundation Fund, in reality a professional community trust, will be of interest. First—The funds of the Foundation Fund are handled by a capable trust company of Dubuque under the strict controlling trust laws of the State of Iowa and offers a distinct and definite place to which any physician desiring to further post-graduate medical education and preventive medicine can donate a sum of money, either large or small, and feel that the income from it will go on in perpetuity to help do its part for the profession and for humanity! Second—The physician, through the establishment of this community trust, is now more fully warranted than in the past in creating his individual endowment with the positive assurance that through the administration of the fund by a representative board of trustees composed of an equal number from each one of the three states, that future conditions will be recognized and the income of whatever he contributes be constantly applied for pressing problems of the time, whatever they may

be, and which cannot always be foreseen in advance. The partial failure often, of gifts with fixed or hampering restriction, is not infrequently noted about the country but gifts made to the Foundation Fund of the Tri-State District Medical Society of Illinois, Iowa and Wisconsin will enjoy a much larger usefulness through the broad powers granted the board of trustees who act as the committee of expenditure for the society. Such a plan amply covers the condition of constant change which is taking place in our medical outlook by recognizing that the medical "problem of each decade can be better solved by the best minds of that decade rather than through the medium of some dead hand of the past." Third—The Foundation Fund has not been started with the idea of a single large individual or private donation dominating the situation more or less, but by the smaller gifts of many physicians from all sections as a democratic professional community affair in which all can be financially interested and be fully represented. The purchase of a life membership for instance, in the society by the payment of two hundred dollars which money goes directly into the endowment fund to yield its income is but one of the many ways that a physician may assist and enjoy its benefits as well. Fourth—The Foundation Fund will further give the clear opportunity to the physician of smaller means without direct descendants or members of the profession of very large means after having cared for their own, to provide that a small portion of their estate shall remain intact in the Foundation Fund of the Tri-State District Medical Society as a memorial fund the income to be used in helping carry out the splendid educational work of the association. The present officers of the society, trustees and committee chairmen are as follows:

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Honorary President—Dr. James R. Guthrie, Dubuque, Iowa.

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Dr. Roland Hazen, Paris, Illinois.
Dr. E. L. Rohlf, Waterloo, Iowa.
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Subscriptions are requested from the medical profession and others interested. It is hoped that every physician in the three states will give something. Checks should be made out to the Foundation Fund of the Tri-State District Medical Society and not to any person. Any further information regarding the trust will be gladly furnished by the trustees or officers of the society, or by the general chairman.

RADIUM TREATMENT

Dawson Turner notes in the Edinburgh Medical Journal, some observations on the use of radium.

One of the conditions for which in recent years radium has been found consistently useful is that of exophthalmic goitre. The writer has now treated upwards of fifty cases with radium, and with one exception all of those patients derived more or less benefit. The exception was a woman of twenty-two years of age, who suffered from extreme nervousness, and who died, within a fortnight of the treatment, of hyperthyroidism and toxic phenomena. The benefit that patients with exophthalmic goitre derive from the expert application of radium is in their general condition and in their special symptoms. Thus they regain strength, lose the tired feeling and put on weight, and at the same time the tachycardia, tremor, and breathlessness are diminished and may disappear altogether. The thyroid gland becomes harder, denser, but usually does not diminish in size, and the exophthalmos is but little affected. It is well to warn patients of this, lest they suffer disappointment at the neck swelling remaining the same. Operative measures to reduce the size of the gland might now be considered, both because the vascularity is diminished, and because the patient is better able to stand an operation. The writer is in the habit of treating each lobe, and the isthmus of the thyroid, and the thymus. A dose of from 200 to 400 milli-

gram hours, properly screened so as to avoid injury to the skin, may be given over each of these areas, and the patient may then be sent home for some three months, when more treatment may, if necessary, be given. As the skin over the front of the throat appears to be very sensitive to radium rays, great care should be taken to avoid over-exposing it. As compared with x-rays in the treatment of this condition, radium has the following advantages: (1) Absolutely constant emission of rays so that the deeper parts of the gland are reached. (2) Far greater penetration of its rays, so that the deeper parts of the gland are reached. (3) No noisy, exciting apparatus, so that the treatment can be applied at the bedside without in any way disturbing the patient. The words *Cito, tuto, et jucunde* can fairly be applied to the radium treatment of exophthalmic goitre.

RADIUM TREATMENT OF EPITHELIOMA

Dr. Cosby Swanson, M.D., of Atlantic, Georgia, in the Journal Medical Association of Georgia, March 1, 1920, records his experience with radium in the treatment of epithelioma growths. In relation to the location of these growths he says:

Twenty-two were on the scalp, eighteen were on the forehead and temples, twenty-one were on the nose, twenty-eight were on the cheeks and chin, four were on the upper lip, eleven were on the lower lip, nine were on the ears, eight were on the neck and chest, and three were on the hands.

The duration of the growths varied from three months to twenty years. The ages of the cases varied from twenty-eight to eighty-six years. The quantity of radium used varied from ten to fifty mg. The duration of the exposure varied from two to twenty-four hours. The cases with small, superficial growths received short exposures. The cases with deep-seated and extensive growths received very long exposures. The majority of cases received from four to eight exposures. The amount of screening used was regulated to suit each individual use. In superficial growths gauze and rubber tissues were used. In the deeper seated growths gauze, rubber tissues and brass screens were used.

The results of the treatment were as follows:

In fourteen of the cases the growths were so extensive radium was used as a palliative measure only. Seven cases failed to heal due to lowered vitality. Nine cases died before finishing the treatment from causes other than cancer, too early to know the results of the treatment. In three cases the treatment did not effect the progress of the disease and later the growths were excised. Seventeen of the cases did not return for observation and the results of the treatment are unknown. One hundred of the one hundred fifty-six cases were apparently cured. All of these cases remained under observation for from one to two years after completing the treatment.

The Journal of the Iowa State Medical Society

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INTER-COUNTY MEDICAL SOCIETY

On another page will be found the program of the Inter-County Medical Society (Sac, Ida, Crawford, Calhoun, and Carroll). It appears that a group of physicians, particularly Drs. Jones of Wall Lake, Stalford and Findley of Sac City, conceived the idea of bringing together the physicians of these five counties for the purpose of discussing medical subjects. An examination of the program will show that the field was generally covered. There are no large towns in this group of counties, and it was apparent that Jones, Stalford, and Findley believed that they could find worthy representatives of every department of medicine among the general practitioners in these prosperous towns; and they were not mistaken. The papers read, and the discussions would do credit to any medical organization, and shows conclusively that group practice could be easily developed in these country communities.

There were about forty physicians present. Dr. Jones was general manager, and Dr. Stalford and Dr. Findley were president and secretary spontaneously. A curious fact was observed, each county was foreign country to every other county for a general introduction was necessary; this served as a text for the remarks that fell to me to make. Why should so many bright and capable men live as strangers to each other? Each physician occupied an influential and respected position in his own town and county, and yet, were so many isolated units. Every man on the

program responded to his name, no man presented an excuse. The reflection came to me that if these men were united, not in a competitive way, except for service to the public, as was true, there could be no doubt of securing from the public anything in reason. Here was a concrete illustration of what we can do and what we ought to do if we are to exercise a helpful influence in solving public problems.

Another important part of this meeting was the presence of the wives and daughters of the doctors; they were interested not alone in preparing the dinners for their husbands, and fathers; not alone in the competitive success of their husbands and fathers; but in their work as physicians, in their work for public betterment. There is a great field for women, especially the doctors' wives in bringing the message of helpfulness to their associates in clubs, and churches, freed as far as may be from selfish motives. The field is greater and more attractive in the country villages, and in the smaller cities than in the larger cities where personal identity is lost and the home has given place to apartment houses. The writers' greatest pleasure is in recalling the years in a country town where closer relationship exists and where the closer friendships are formed.

The exact membership was thirty-seven and before the conclusion of the session, an organization was effected known as the "Wall Lake District Medical Association" with Wall Lake as the permanent place of meeting.

We are publishing a part of the eloquent address delivered at the Montreal meeting of the American College of Surgery by Sir Berkeley Moynihan on the presentation of the mace:

Three centuries ago on this very day a little sailing vessel, leaving England far behind her, was struggling against adverse winds and heavy seas towards America. On board were 100 pilgrims fleeing from civil and religious tyranny to seek sanctuary and freedom in a new land. No voyage in history has been so fateful. Those who journeyed in that vessel, a chosen company on the horizon of your history, were the best of English stock. They helped to found here a small colony of people, grim and stoical in spirit, yet touched with idealism. Though all the great countries of the earth have since given of their best to build your nation, those few pilgrims have left their indelible stamp upon the culture, the institutions, and the laws of this land. Almost a century and half ago that colony broke away from the mother country, with which it was long at war. But 100 years of peace between the two nations had been celebrated when in 1917 they stood together in arms. War is the Great Revealer. We learnt in that great

testing time of our race that ties of blood, when they mean kinship in spirit and an equal surrender to the noblest impulse, are never to be broken. In the Great War America and Britain mingled their blood upon the same stricken field. The hope then grew strong in many hearts that a new understanding, born of comradeship in battle, fiercely tested in the furnace of affliction, and sealed in death, would redeem all ancient blunders, blot out the bitter memories of wrong, and lead at least to a supreme and permanent reconciliation. For we seemed then to realize that deep down in the hearts, enthroned in the conscience of the two peoples there was the same full eager devotion to eternal principles, love of justice, joy in liberty, hatred of oppression; the same unselfish determination to strive for the redemption of mankind, and to establish anew the freedom of the world. On the fields of Flanders and of France as in the cabin of the Mayflower, humanity recovered its rights.

In the grave and anxious days of war, when we fought so long in fellowship, no associations were closer, no friendships more swift and intimate, no joint labours more fruitful than those of our profession. We then gained each for the other, not respect and sympathy alone but true affection also. Every lover of his country, every lover of humanity must wish that the spiritual alliance then created shall endure to the end of time. In our desire to perpetuate the remembrance of those days of duty done together, we, the consulting surgeons of the Armies of Britain, ask the College of Surgeons of America to accept this mace. We pray that you may regard it as a symbol of our union in the harsh days of trial; as a pledge of our devotion to the same imperishable ideals; as a witness to our unfaltering and unchanging hope that the members of our profession in the two lands shall be joined in brotherhood forever in the service of mankind.

THE TEACHING OF MEDICAL HISTORY

England is almost the only country where there is no adequate provision for the teaching of medical history. In France, the United States, Switzerland, Norway, Holland, and Canada, chairs on this subject have long been in existence; in Germany and Austria not only are there several professorships of medical history but, in Leipzig as in Vienna, there are fully equipped institutes for its more detailed study. Great activity in the same direction has been exhibited in Denmark, Portugal, Belgium, and especially in Italy. In this country the subject has been ignored by all our universities except Edinburgh, where a part time lectureship has been established.

Yet the advantages to be derived from an acquaintance with the history of medicine are many, while the burden which it places on the curriculum is nil. Dogmatism, the current foible of the working scientist, finds in history its best antidote. Formlessness and diffuseness, the literary dangers which

threaten to crush progress by making scientific literature unreadable, and therefore inaccessible—those find their natural remedy in the study of the great models of the past.

If we reflect that William Harvey compressed the greatest of all medical works into fifty-two pages, and that William Gilbert needed hardly more space to detail twenty years' magnetical experiments, while today the International Catalogue of the mere titles of scientific papers fills seventeen annual volumes, the urgent need of better literary form may be realized.

There are those who think that medical history is best left in the hands of amateurs and to the spare time of men who have the leisure and literary gifts for its pursuit. This view is partly true, though it also contains a fallacy. No one interested in the history of medicine would or could wish the solace of study removed from those who love it, for whom it is a real recreation. But only those who have spent years in historical research—and there is no form of research that makes greater claims on time and energy—only those can realize the amount of fruitless labour and the endless disappointments that await the unrequited labourer. To make the efforts of the casual historical worker effective and fruitful it is before all things necessary for him to have experienced guidance. Historical research, like every other form of research, has its own technique, and a technique very laborious in the acquisition. Even properly to find one's way about a great library needs months of experience. But for a localized and limited field of investigation an efficient guide may help the worker to acquire his technique with comparative ease and rapidity, while without such aid he may wander long and then abandon his task in despair or produce immature and imperfect results.—*The British Medical Journal*.

With the aid of a gift from Dr. Adolph Barkan, emeritus professor of the Stanford Medical School, the University is gathering in the Lane Library of the Medical School in San Francisco a collection on the history of medicine that will be equaled by no other Western institution.

Dr. Barkan will give \$1000 a year for the next three years, to which the University will be able to add from the income from certain Lane Library Foundations \$1500 a year, making a total fund of \$7500, all of which will be expended on books concerning the history of medicine.

Dr. Barkan himself, is now in Europe and he has employed an expert and has also gained the assistance of one of the most celebrated professors in Europe to aid him in getting together this collection.

Dr. Barkan was professor of structure and diseases of the eye, ear, and larynx in the medical school and retired from active teaching in 1911. He has before this been a liberal benefactor of the medical school library having given his own library dealing with the

subjects in his own special field, together with \$10,000 as a fund for the purchase of other books on these subjects.

TWENTY-FOURTH ANNUAL MEETING OF THE MEDICAL LIBRARY ASSOCIATION

The twenty-fourth annual meeting of the Medical Library Association, whose membership includes all of the larger medical libraries of the country, and a large number of individual members, consisting of those interested in furthering medical library work, was held in Boston June 6, 7, 8, 1921. The business meetings of the association were held in the Boston Medical Library. In addition to the address of the president the program contained the report of a committee on Standard Classification, and the system used in the Boston Medical Library, and this as explained by the chairman, Mr. James F. Ballard, was adopted, as being the most practical solution for meeting the perplexing problems of classification. This was followed by a discussion on "Reference Aids," which was opened by Mrs. Grace W. Myers of the Treadwell Library of the Massachusetts General Hospital. An evening meeting, which was largely attended, was addressed by the president, Dr. John W. Farlow of the Boston Medical Library. This was followed by an interesting paper, illustrated by lantern slides, by Dr. George S. Huntington of New York City, entitled "Some Historical Facts Concerning the Catoptron of Johannes Remmelin, and the Superimposed Anatomical Plate During the Early Part of the Seventeenth Century." Following this Dr. Malcolm Storer of Boston read a paper entitled "Interesting Medical Medals."

In addition to the regular program visits were made to the various libraries in Boston. In each case the members of the association were shown over the buildings and the various points of interest were explained. Visits were made to the Harvard Medical School Library, Boston Public Library, Harvard College Library, Treadwell Library and the Boston Athenaeum Library. Of particular interest was an exhibit of rare medical items from the library of Dr. Edward C. Streeter of Boston, spread in the exhibition room of the Boston Public Library. The exhibition was specifically epidemiological, the essential literature on fevers from Hippocrates to Lancisi, with a few sections such as plague, syphilis, venesection superadded.

The permanent headquarters of the Medical Library Association is in the medical and surgical faculty building, at 1211 Cathedral street, Baltimore, Maryland.

BOWDOIN MEDICAL SCHOOL

The Journal of the Maine Medical Association comments on the present condition of this venerable school in the following languages:

First—The medical department is somewhat below

the rating of a class A medical school, and as such Bowdoin College will not carry it on unless the necessary funds are immediately forthcoming. As Bowdoin College will not go to the legislature for financial aid, the school will cease to exist as a department of Bowdoin College next June.

Second—There is a serious shortage of physicians in the outlying districts of the state, as shown in the report of the department of health, and the only hope of supplying this deficiency lies in the continuance of a medical school in Maine.

MEDICAL SCHOOL IN COLORADO

The profession of Colorado are earnestly endeavoring to secure financial aid to establish a modern medical school, a state general hospital, and a psychopathic hospital, to be located in Denver. The cost of the entire plant is estimated at \$1,500,000.

In the present condition of the university finances to maintain a modern medical school would cripple all the departments.

Colorado Medicine in a recent editorial reviewed the situation and expresses the hope that the legislature will be liberal in appropriations for the university and together with aid from the general education board of the Rockefeller Foundation, the plans for the medical school may be realized.

It would be unfortunate if the fine spirit of professional enterprise in Denver could not find expression in a very modern medical school.

TIME TO RETIRE

Dr. Franz Torek of New York, writing in the Medical Review of Reviews in relation to the time for a physician to retire says:

Retiring from work has always been looked on by the writer as premature waste of riches and ability, which may not be replaced. It may be that it is a fancy or ungrounded superstition, but it seems that retiring on the part of any active man from his real life work is a signal that the natural decay and inevitable end has been hurried on as no other act could have hurried it. The physician's work should certainly be more than the means to accomplish what is termed success by the superficial observer. Despite the commercialism of modern times, the constantly surging artificial influences surrounding the physician, he does most and is happiest who sincerely has before him the betterment of his work, the consequent betterment of his people; he is paid as no other mortal in the realization that he has been successful in relieving a human sufferer. It is true that actual experience discloses to him, more than any other man, the despicable trait of ingratitude, he sees enough of that to warrant his becoming an Ishmaelite when he reviews his reward, but thanks to his high ideals and staunch character he is not swerved by such human weaknesses; he weighs the

good, appreciates the clay he handles and dismisses the matter.

Ours is the only profession whose usefulness is ended by death alone. Work never destroys the worker if it is his work, if he works as an artist, appreciative of the functions he is called to fill.

THE LITHAL DOSE OF RADIUM IN MALIGNANCY

Dr. Russell Boggs of Pittsburg in the New York Medical Journal for June 12, 1920, presents an interesting study as to the results of lithal doses of radium in the treatment of malignant disease. The author insists that malignancy should be a specialty of itself and not a side issue. He accounts for the failure of the treatment in many cases of malignant diseases to the lack of understanding of the nature and conditions of the disease. The recognized failure of cure is the failure to eradication of all the cells, a particular fault in relying on operative surgery alone. All that is in sight is removed but many cells escape and metastasis follows. Without a full knowledge of the essential character of malignancy, and training and skill in the application of radium, efficiency is not secured and a favorable case goes on to death. The determination of a lithal dose of radium on cancer cells is a matter of great difficulty, the susceptibility of the malignant tissues to the radiation must be determined as well as its depth from the surface.

The author calls attention to the fact that many operatives confuse the erythemia with the lithal or cancer destroying doses. The erythemia dose is sometimes lethal but not always, other factors must be considered. The need of accurate knowledge in the treatment of malignant diseases, both as to surgery and radiation is ably presented in this somewhat extended paper which tends to prove that the practitioner should in the interests of his patient invoke the aid of men who are trained and equipped in this line of work.

SUSPENSION OF MENSTRUAL FUNCTION FOR CERTAIN FORMS OF PULMONARY TUBERCULOSIS

R. Guillermin, in *Revue Medicale de la Suisse Romande*, suggests the temporary suspension of the menstrual function in certain forms of pulmonary tuberculosis by radio-therapeutics. It has been observed that at each menstrual congestion the pulmonary symptoms were exaggerated with an increased tendency to pulmonary hemorrhage. It has therefore been recommended, in young women, to remove both ovaries for the purpose of eliminating this disturbing function. Guillermin believes it better to bring about a temporary suspension of ovarian function by radiotherapy and cites two cases; in one by four treatments in four days; in the other seven-

teen treatments in the period of one year. The scances were of five minutes for each ovary. The two patients were forty-five years of age and were passing through the menopause; under this treatment the patients were greatly benefited.—(*La Presse Medicale*.)

EFFECTS OF WAR NEPHRITIS ON KIDNEY FUNCTION

The investigation on nephritic cases reported on by MacLean and De Wesselow disclosed that the presence of albumin in the urine or the extent of the albuminuria is of little value as an index to the gravity of the case, for it is well known that the more serious cases may show but traces of albuminuria. In general, the amount of protein in the urine in subacute and chronic cases is probably of more importance in indicating the predominating type of disease present than in furnishing information as to the gravity of the renal condition. In the early stages of an acute attack of nephritis the blood urea content furnishes the best indication of the state of the kidney. If this is normal, it may be taken for granted that the damage to the kidney is not sufficient to interfere with its normal function of excreting nitrogenous products. If, on the other hand, the blood urea figure is high, the most valuable information as to the progress of the disease is obtained by occasional estimations of blood urea. If the urea tends to get less, the prognosis is good; if it gets persistently higher, the outlook is correspondingly bad. In severe chronic interstitial conditions the same state of affairs is present. In many subacute and chronic conditions the kidney is not sufficiently damaged to cause an increase in blood urea, and so no information is to be obtained by this test. In such cases other means must be employed, and the authors found that the capacity of the kidneys to concentrate urea in the urine, under conditions described, affords, very helpful information. If after receiving 15 gm. of urea by mouth, the patient excretes urine containing about 2 per cent of urea, it is safe to conclude that the kidney is at least fairly efficient.

If the urine concentration is low, it is in the great majority of cases an indication that the kidney is inefficient. Finally, the authors regard it as most important to emphasize that, whatever the result of the various functional tests may be, no prognosis should be given without first carefully examining the state of the cardiovascular system.—*The Journal of the American Medical Association*.

TUBERCULOSIS SANITORIA

The difficulties in keeping patients in a tuberculosis sanatorium until they are safely cured is set forth by Dr. Marchand, associate professor of medicine, in the school of medicine of Limoges, in a paper pub-

lished in *La Presse Medicale* for August 28, 1919. Marchand says that unfortunately many patients refuse the sanatorium because of their repugnance to leave their families, or they become homesick and go out before the cure is complete. It is less difficult to care for patients in city tuberculosis hospitals than in the country because the families living in the cities are in close proximity and can visit the patients frequently and keep them more cheerful.

There are many advantages in locating tuberculosis hospitals in the country with pleasant and interesting surroundings but it means separating patients from families. Marchand believes that if assistance could be given certain families so that they could be located on farms, or in certain domestic industries near the sanatorium, much of the difficulty could be overcome and patients could be induced to remain in tuberculosis sanatoriums for longer periods of time. The difficulty arising from separating families is probably less in America than in France, where family ties are closer.

IMMUNITY AGAINST YELLOW FEVER

Dr. Hideyo Noguchi of the Rockefeller Institute has introduced a serum which it is believed will reduce the mortality from yellow fever by establishing an immunity. By controlling the breeding places of the mosquito which carry the germ, the disease can be largely prevented. Yet there are places where such control does not exist and where the danger probably still threatens. President Geo. S. Vincent of the Rockefeller Institute authorizes the following statement:

"Already vaccination against yellow fever of people going to tropical countries is being made in New York. This work is being done at the Broad Street Hospital with vaccine furnished by the Rockefeller Institute. The first shipment of vaccine for yellow fever from the Rockefeller Institute to tropical countries was made a year ago when three hundred bottles were sent to Mexico. Other shipments have been made since then, the latest on November 10. All vaccine supplied to Mexico is sent to the Mexican Department of Health, which arranges for its distribution.

"The Central American countries are so well convinced of the efficacy of Dr. Noguchi's vaccine that they are permitting travel without quarantine detention of those who have been successfully vaccinated."

DANGER IN HORSE-HAIR SHAVING BRUSHES

Surgeon-General Cumming, of the United States Public Health Service, has just issued a fresh warning against the use of horse-hair shaving brushes, to which not a few cases of anthrax have been traced.

He says, "The Public Health Service has made every effort possible under existing laws and regula-

tions to prevent the occurrence of anthrax due to infected shaving brushes, but in spite of its efforts anthrax cases occur and will continue to occur unless the public ceases to buy and use horse-hair brushes for shaving.

"It is the consensus of expert opinion that shaving brush anthrax is contracted only when the shaving brush is made of horse-hair; and Congress at the next session will be asked to prohibit the use of horse-hair for that purpose. It is doubtful however, if any effective measures can be taken by health officials to curtail the use of the horse-hair shaving brushes now in trade channels, some of which are presumably infected, except a direct warning to the public not to buy or use such brushes."

Dr. Cumming strongly urges the issue of such an appeal by state health officials and its widest possible publicity, as the only way, pending additional legislation, to obviate their potential danger.

UNIVERSITY NEWS NOTES

Don M. Griswold, M.D., Iowa City

Dr. G. B. Wilbur of South Dennis, Massachusetts, has been appointed senior resident physician of the State Psychopathic Hospital.

Dr. G. W. Sprague formerly of the General Hospital, Bridgeport, Connecticut, has been appointed senior intern of the State Psychopathic Hospital.

Miss Bellya of Butler Hospital, Providence, Rhode Island, has been appointed supervisor of nurses, State Psychopathic Hospital.

Miss Mary A. Haarer, superintendent of nurses, University Hospital, has returned from an extended trip from southern California and Texas in the interests of her health.

The training school for nurses of the University Hospital admitted this June a class of nurses with unusually high qualifications. Several of the young women are enrolled in the combined liberal arts-nurses training course and after two years of hospital work will graduate with degrees in both liberal arts and nursing. This combined course is making up a larger proportion of the pupils in the Nurses Training School each year and gives the course a very high standing among nurses training schools.

Miss Helen Brownlee, graduate of the Nurses Training School, 1920, and Dr. Van Zele, a recent graduate in the College of Dentistry, were recently married.

Miss Bessie Taylor, graduate of the Nurses Training School, 1920, who has been one of the head nurses at the University Hospital since graduation, and Dr. Suchomel a recent graduate of the College

of Medicine were married shortly after commencement.

The new nurses home on the new medical campus, west of the river, is nearly completed and will be ready for occupancy about October 1. The building is delightfully located overlooking the river and is conveniently located to the children's hospital and the psychopathic hospital.

The work of the Metabolism Unit of the University Hospital, consisting of the Research Chemical Laboratory and a ward for nephritis and diabetes patients has been so successful during the past year that it has been made a permanent part of the department of internal medicine. The work has previously been supported by funds from the graduate school although the work was directed by Dr. C. O. Howard, head of the department of internal medicine.

Dr. R. L. Fenlon, who has for the past two years been connected with the department of internal medicine, is moving to Clinton to begin the practice of internal medicine and laboratory work.

Dr. G. H. Hansmann who has been resident pathologist in the department of internal medicine for the past three years is resigning to accept a similar position at Peter Bent Brigham Hospital in Boston, Massachusetts.

Dr. Little of the department of obstetrics and gynecology of the Montreal General Hospital was a recent visitor at the medical school and the University Hospital.

Dr. A. H. Bryan of the department of internal medicine has been assigned a position at the Mayo Clinic and will be doing three years more post-graduate work there.

Dr. B. H. Harding, an intern in the department of internal medicine has decided to stay at the University Hospital another year as intern in the department of surgery.

Dr. W. G. Walker, who, for the past year, has been clinical assistant in the department of internal medicine, will be in charge of the clinical laboratory of the University Hospital, vice, Dr. G. H. Hansmann.

Dr. W. H. Dahl has been appointed clinical assistant to Dr. C. O. Howard for the coming year.

Dr. Henry Albert, professor of pathology and bacteriology, has been given a year's leave of absence. Dr. Albert will spend a year in southern California where it is hoped he will regain his full health and strength before the academic year of 1922.

RESOLUTION DEFINING THE MEANING OF THE TERM "STATE MEDICINE"

Whereas, The term "State Medicine" has a liberal meaning so general as to include public practice and policies, some of which are desirable and some of which are objectionable, and,

Whereas, The term "State Medicine" has been and is being used, frequently and extensively, with confused and without established meaning, and,

Whereas, Such use of the term has resulted in and continues to produce much misunderstandings, controversy, and antagonism both within the profession and between the profession and the public, now, therefore,

Be It Resolved, By the House of Delegates of the American Medical Association that to prevent further loose use of the term with resulting misunderstandings and controversy and to facilitate intelligent discussion and action "State Medicine" be and is hereby defined as follows:

"State Medicine" is any practice or policy provided for in the legislative acts of a state which has to do with the prevention or treatment of disease, and among other requirements and provision includes:

1. Legislation that determines who shall be permitted and who shall not be permitted to treat disease and prescribe the conditions under which a person may practice medicine.

2. Legislation which provides institutional treatment and care for the delinquent, the defective and the diseased including institutions for the feeble-minded, the deaf and blind, the psychopathic and insane, and the tuberculous.

3. Legislation which provides for the education of the general public in matters of personal and public hygiene, giving them a higher appreciation of the value and use of medical science through printed matter, addresses, moving pictures, visiting nurses and other means of proved educational value.

4. Legislation which provides public laboratories for assisting the profession in the diagnosis of specimens, of pathologic material, and further assist the profession by providing and furnishing various biologic products of preventive and curative value.

5. Legislation which provides for sickness insurance, especially as practiced in England, and which provides for panels of physicians who are paid out of public funds, and at rates fixed by the state.

6. Legislation which provides for the reporting by physicians of births, deaths and communicable diseases, and prescribes measures for their control.

7. Legislation which provides for the physical examination of school children, for the purpose of finding those that suffer from common defect with the view of securing treatment of such defect, both in the interest of the individual child and in the interest of the classes in which he recites and retards.

8. Legislation which provides dispensaries for the examination and treatment of diseases of such prevalent and far-reaching effect upon the public health

as to constitute large and unnecessary handicaps to social progress, as for example; dispensaries for venereal diseases and trachoma and hookworm diseases in certain sections of the country.

MEDICAL NEWS NOTES

U. S. Short of Physicians

At the opening session of the American Institute of Homeopathy at Washington, D. C., yesterday afternoon, a speaker declared that the United States is now short 25,000 physicians. Not only this, but the shortage is growing.

Year by year fewer men in proportion to the increase of population enter the medical profession. There are two reasons for this: in the first place not many young men can secure sufficient money to send them through the long course of instruction, secondly, there is a lack of quick returns after the course of instruction has been gone through with.

Right now the physicians of America are undergoing hardships because their patients will not or can not pay their bills. It is curious that a human being will pay his grocer, his baker and his meat man, but will not pay his physician or his dentist until he feels that he must.

Most physicians do not send out many bills to their patients. And many patients take advantage of this by never mentioning the bill while talking to their physician.

The wife of a Benton county doctor declared recently that the physicians in this part of Iowa are near the starvation point. "Why," said she, "last month we had to spend more than twice as much for our living expenses than the doctor took in during the same time."

The Medical Society of Pottawattamie County in the interest of public health is backing the proposition to compel the sale of milk in the city from only tuberculin tested herds. In this it should have the support of everybody interested in the public welfare. The city council should lose no time in passing an ordinance requiring that every vendor of milk in the city have his cows tested and then the ordinance should be strictly enforced.

The Women's Medical Club, composed of women physicians of Des Moines, entertained two foreign women doctors at a luncheon at Younkers' tea room, Des Moines, Friday night, June 25, Dr. Masahsa of Rangoon, Burma, and Dr. Nandama of Nellors, South India. Drs. Masahsa and Nandama are attending the Baptist convention.

The \$15,000 damage suit started in the district court by J. K. Oates and George A. Hartley against Dr. B. B. Leonard, of Correctionville, Iowa, finally has been decided against Oates and Hartley by the state supreme court.

In their suit against Dr. Leonard the plaintiffs al-

leged Dr. Leonard sold them his medical practice on his representation that he desired to retire from active practice and move to his country home. After the transaction had been completed Dr. Leonard moved to his country home, but continued his medical practice and made false and slanderous statements against Oates and Hartley, they asserted.

The case was tried in the district court and resulted in a verdict in favor of Dr. Leonard. The plaintiffs appealed the verdict to the supreme court.

HOSPITAL NOTES

The city council in regular session at Charles City authorized the issuance of \$40,000 in hospital bonds with which to purchase the Cedar Valley Hospital. The bonds will bear six per cent interest and will be payable in fifteen years. They will be issued in denominations of \$100 to \$1,000.

Dr. Ma Saw Sa, the only woman physician of Burma and the first Burmese girl who ever got a college education, is one of India's representatives at the golden jubilee of the Woman's American Baptist Foreign Mission Society.

Dr. Ma Saw Sa is at present the head of the Lady Dufferin Hospital in Rangoon, Burma. She passed her first arts examination as a student in the Baptist College in Rangoon in 1906, a product of the excellent mission schools in that country. After finishing college she was given a medical scholarship and spent the next five years in a medical college of the government hospital, Calcutta, India.

Afterwards she spent two years in medical study abroad, receiving diplomas from the Royal College of Physicians and Surgeons at Dublin.

Dr. Ma Saw Sa's medical experience in Burma has been extensive. Upon her return to her own country in 1913, she was appointed assistant superintendent in the general hospital, a government institution in Rangoon. The following year she was appointed superintendent of the Dufferin Maternity Hospital, which office she has filled ever since with notable success.

Her work includes not only her duties as a physician but the extensive training of native nurses, desperately needed at the present time in Burma. She also has the responsibilities of the entire administration of the large hospital on her shoulders.

SOCIETY PROCEEDINGS

Boone County Medical Society

The members of the Boone County Medical Society held a meeting on Thursday evening, June 23, at eight o'clock in the office of Dr. P. H. Allen in the First National Bank Building. Dr. Ralph Parker, eye, nose and throat specialist of Des Moines was the principal speaker for the evening and gave a talk on Nose and Throat Work. Routine business was

transacted followed by the serving of light refreshments.

Des Moines County Medical Society

Dr. C. H. Magee and Dr. A. C. Moerke treated the other members of the Des Moines County Medical Society to a supper and outing at Carthage lake, Wednesday afternoon and evening, June 22.

There were twenty-five Burlington physicians and surgeons present for supper, and a general good time was in order. They went to the lake at 2 o'clock and spent the afternoon fishing. The doctors would not commit themselves on how many fish were caught in the lake.

A very pleasant evening was spent after supper and the doctors returned to their respective homes about 10 o'clock, Wednesday night.

Cerro Gordo Medical Society

The Cerro Gordo Medical Society held its meeting at the Rogers Hotel recently. A fine 6:30 dinner was served following which a program was given.

Among the number who gave papers or addresses, were Dr. E. L. Wurtzer, Dr. A. J. Cole, Dr. F. A. Barber and Dr. A. B. Phillips.

Greene County Medical Society

The Greene County Medical Society held a scientific meeting at Scranton Friday night, June 10. The meeting was held in the bank building of the Bank of Scranton. Each physician read and discussed a case as sent out from the case records of the Massachusetts General Hospital of Boston. After the meeting, adjournment to the home of Dr. and Mrs. Parry, where refreshments were served to the doctors and the wives. The following doctors and their wives were present: Dr. Cressler, Churdan; Dr. Reed and Dr. Kester, from Grand Junction; Dr. B. C. Hamilton, Sr., Dr. L. F. Hoyt, Dr. G. Franklin and Dr. Ben Hamilton, Jr., of Jefferson; Dr. Parry, Dr. Kline, Dr. Pressnell from Scranton. The next meeting will be held at Grand Junction.

Louisa County Medical Society

The Louisa County Medical Society, in co-operation with the State Tuberculosis Association, has arranged for a tuberculosis and nose and throat clinic to be held at Columbus Junction Friday, June 24.

These clinics are conducted by specialists from the State University. The examinations are free of charge, the expense of the clinics being defrayed by the Christmas seal sale fund. The examinations will be made in the forenoon from 8 to 12. The afternoon will be given over to discussion of cases.

Page County Medical Association

The regular semi-annual meeting of the Page County Medical Association was held in Shenandoah June 2.

A luncheon was held at the Delmonico, followed

by talks by the different medical men present. Dr. Davis of Omaha on Diseases of the Urinary Tract and Dr. Young of Omaha on Diseases of the Nerves.

The matter of admitting counties adjourning Page to the association was discussed although no definite steps were taken. Several counties have asked for admittance in view of the forming of a southwestern Iowa association. The next meeting will be held in Clarinda in December and this will probably be brought up for discussion at that time.

The officers of the Page County Medical Association are: President, Dr. B. S. Barnes; secretary, Dr. M. O. Brush; vice-president, Dr. Powers of Clarinda; delegate, Dr. Phillips of Clarinda.

The following men were present: Dr. Matthews and Dr. Powers of Clarinda; Dr. Davis and Dr. Young of Omaha; Dr. Benning of Yorktown, and Dr. Putman, Dr. Weaver, Dr. Brush, Dr. Barnes and Dr. Aldrich of Shenandoah.

Palo Alto County Medical Society

Palo Alto County Medical Society met in Emmetsburg June 1, 1921. Sixteen members present. Program consisted of papers by Dr. Geo. M. Crabb of Mason City and Dr. Charles Cratzmyer of Algona.

President, Dr. J. W. Wordbridge of Cylinder, secretary, Dr. H. L. Bereton.

Poweshiek County Medical Society

The Poweshiek County Medical Society met at Brooklyn Tuesday, June 7, 1921, with Dr. C. D. Busby. Dr. E. M. Meddlar of the State University gave an illustrated lecture on the subject Chronic Mastitis and its Relation to Cancer of the Breast. This was the annual meeting of the society at which time the following officers were elected: President, Dr. E. J. Ringena of Brooklyn; vice-president, Dr. J. L. Ravetts of Montezuma; secretary, Dr. E. E. Harris of Grinnell; censor, Dr. L. F. Crane of Deep River; delegate, Dr. E. E. Harris of Grinnell; alternate, Dr. E. F. Talbott of Grinnell. The following members were present from the different towns: Dr. Williams of Montezuma, Dr. Wilcox of Malcom, Dr. Busby, Dr. Ringema and Dr. Simeral of Brooklyn, Dr. Talbott, Dr. Lewis, Dr. Harris, Dr. Evans, Dr. Lauder, Dr. Somers, Dr. Hill, Dr. Hopkins and Dr. Parish of Grinnell.

Ringgold County Medical Society

The Ringgold County Medical Society held a meeting at Mount Ayr July 27 which was well attended by all the members of the society and by many visitors from adjoining counties.

Dr. Caryl Potter of St. Joseph, Missouri, read a very instructive and entertaining paper on Surgical vs. Medical Treatment of Goitre.

Dr. C. B. Luginbuhl of Des Moines read a paper on Constipation which was a comprehensive one and well received.

Dr. L. H. Fuson of Saint Joseph, Missouri, read a

very instructive paper on Classification, Pathology and Diagnosis of Toxic Goitre.

The Ringgold County Medical Society is in a prosperous condition; there is money in the treasury and all doctors in the county are members with two exceptions. Meetings are held every sixty days good weather and good roads permitting.

S. Bailey, Sec'y.

Taylor County Medical Society

The Taylor County Medical Society met at the office of Dr. King at Blockton, Tuesday, June 21.

Following is the program: A paper was read on "The Doctor and the Modern Community," by Dr. Eiker, of Leon. Discussion opened by Dr. Miller of Blockton.

"Value of the County Clinic, and Report of the State Society," by Dr. King of Blockton. Discussion opened by Dr. Reed of Clearfield, Dr. Sollis of Bedford, and Dr. Reed of Gravity.

"Valvular Lesions and Their Treatment," by Dr. Terrell, Bedford. Discussion opened by Dr. Maloy of Blockton.

"Pelvic Complications following Labor," by Dr. C. E. Ruth of Des Moines. Discussion opened by Dr. Terrell of Bedford.

Dr. Glomset of Des Moines was present and read a paper on "Diabetis."

Inter-County Medical Meeting

The Inter-County Medical meeting, Ida, Sac, Crawford, Carroll and Calhoun counties, was held at the city hall, Wall Lake, Iowa, June 23, 1921, afternoon and evening.

Meeting called to order by President Dr. J. H. Stalford, Sac City.

Address of Welcome—Mayor E. R. Frazer.

Response—Dr. E. H. Crane, Odebolt.

Blood Grouping and Transfusion Work—Dr. Wayne M. Shirley, Carroll.

Discussion opened by Dr. G. C. Moorehead, Ida Grove, and Dr. H. D. Jones, Scheswig.

Acne Vulgaris—Dr. W. J. Findley, Sac City.

Discussion opened by Dr. C. C. Bowie, Carroll, and P. J. Brannon, Denison.

Frontal Sinus Abscess, Diagnosis and Treatment with illustrated cases—Dr. I. S. Buzard, Carroll.

Discussion opened by Dr. E. S. Heilman, Ida Grove, Dr. C. S. Stokes, Battle Creek and Dr. J. H. Stalford, Sac City.

Trifles that Impede Our Progress—Dr. E. H. Crane, Odebolt.

Discussion opened by Drs. J. M. Glynn, Vail and D. J. Townsend, Lohrville.

Medical Practice in Siam—Dr. Paul W. VanMetre, Rockwell City.

Important Subjects Connected with the Organization of the Profession—Dr. D. S. Fairchild, Clinton, editor Iowa Medical Journal.

Paper—Dr. J. J. Meehan, Denison.

Scarlet Fever—Dr. G. C. Moorehead, Ida Grove.

Discussion opened by Dr. McVey, Lake City; Dr. A. G. Norton, Rockwell City, and Dr. Wyatt, Manning.

Banquet 6 p. m., dining hall of Methodist Episcopal church.

Evening Session 7:30 P. M.

Operations Upon Pregnant Women—Dr. C. C. Bowie, Carroll.

Discussion opened by Dr. F. H. McCray, Schaller, and Dr. T. J. Houlihan, Ida Grove.

A Plea for the Child's Tonsils—Dr. F. E. Kauffman, Lake City.

Discussion opened by Dr. Robt. B. Armstrong, Ida Grove, and Dr. I. S. Buzard, Carroll.

The X-Ray as a Diagnostic Aid in Medicine with Plate Demonstration in View Box—Dr. Robt. B. Armstrong, Ida Grove.

Discussion opened by Dr. L. M. Coon, Denison, and Dr. F. M. Mahlin, Dow City.

Epidemic Encephalitis—Dr. E. E. Speaker, Lake View.

Discussion opened by Drs. H. R. Pascoe, Carroll, A. Groman, Odebolt, and H. B. Wilkinson, Denison.

Tuberculosis of the Kidney—Dr. F. V. Hibbs, Carroll.

Discussion opened by Drs. O. C. Morrison, Carroll, and G. Hartley, Battle Creek.

When You Are the Patient—Dr. E. C. Junger, Soldier.

Eclampsia—Report of a Case—Dr. McAllister, Odebolt.

Discussion opened by Drs. E. S. Parker, Ida Grove, H. L. Fobes, Auburn, and F. H. McCray, Schaller.

Officers: President, Dr. J. H. Stalford, Sac City; vice-president, Dr. H. L. Fobes, Auburn; secretary, Dr. W. J. Findley, Sac City; treasurer, Dr. G. C. Moorehead, Ida Grove.

Des Moines Valley Medical Association

The regular annual meeting, the fiftieth gathering of the Des Moines Valley Medical Association was held in Ottumwa, June 2. It was a very successful affair. The mornings were devoted to attendance upon clinics at the Ottumwa Hospital and St. Joseph Hospital. Each clinic was well attended and the skilled clinicians were able to hold the attention of their audiences with more than the average adroitness and proficiency, as they were men of high calibre and thoroughly acquainted with their various subjects, besides having the ability to impart their knowledge to those who came to listen. Their systematic examination of patients brought before them, with the technical discussion of the various diseases which might be presented, and finally the elimination of each of those diseases until the definite affliction stood out prominently before their listeners, was each a masterpiece of diagnostic skill hard to equal.

Dr. A. W. Adson, chief of the Neurological Department of the Mayo Clinic at Rochester, Minnesota, gave a surgical clinic at the Ottumwa Hospital

at eight o'clock which was very instructive, giving many modern ideas in relation to his subject and showing what can be done with surgery in neurological cases when in the hands of a master.

Dr. B. F. Lounsberry, assistant chief surgeon for the C. M. & St. P. R. R., gave a surgical clinic at the same hour at the St. Joseph Hospital, and needless to say he gave many valuable points in regard to the surgical treatment of bone diseases.

Dr. James G. Carr, assistant professor of medicine at Northwestern University, gave a most interesting medical clinic at the Ottumwa Hospital at ten o'clock. He handled his cases with extraordinary dexterity and presented his subjects in a clear, concise and easily understandable manner, characteristic of a man who is a capable teacher as well as a great internist and diagnostician.

Dr. Fred Moore, pediatrician, of Des Moines gave a clinic at the same hour at the St. Joseph Hospital. Dr. Moore is too well known in the state to discuss his valuable demonstration of pediatric knowledge further than to say that it was carried out with his usual excellent proficiency.

The afternoon program was opened at one-thirty, with President E. B. Howell in the chair, and consisted of papers from the clinicians of the morning. Each paper was presented with the same cleverness as were the clinical demonstrations, showing careful preparation of the essayist, taking up the subjects in a thorough manner, again proving the expertness of the men on the program, and each paper was illustrated with lantern slides. The following program was presented: "Surgical Significance of Neurological Lesions," Dr. A. W. Adson; "Digitalis," Dr. James G. Carr; "Bone Surgery," Dr. B. F. Lounsberry; "Pyloric Spasm and Pyloric Stenosis," Dr. Fred Moore.

The evening was devoted to special entertainment in the way of a banquet at the Ottumwa Hotel, with Dr. A. O. Williams presiding as toastmaster in his usual capable manner.

Over a hundred and fifty guests were seated and were entertained by vocal music by the Arion Ladies' Quartette. Three toasts were given and each speaker handled his subject in the gifted way characteristic of each of them, as all are well known orators of high standing and their ability is unquestioned. They spoke upon the following subjects: "Science of Medicine, Fifty Years Retrospective and Prospective," Dr. S. K. Davis, Libertyville, Iowa; "Iowa, Fifty Years Retrospective and Prospective," Hon. C. W. Whitmore, Ottumwa, Iowa; "The Press, Fifty Years Retrospective and Prospective," Hon. Lafayette Young, Des Moines, Iowa.

We are planning big things for next year. We expect to have a two-day session and we do not expect to lessen the quality of the talent which entertained and instructed us this year, although we can hardly hope to have better. Our aim is to have more of it.

W. E. Anthony, Sec.-Treas.

Meeting of Iowa Medical Directors

On May 12 was held the regular mid-year meeting of the Association of medical directors of Iowa Life Insurance Companies. The meeting took place at the Grant Club in Des Moines and was in charge of the officers Dr. Carl Stutsman of the Merchants Life, president, and Dr. M. L. Turner of the Western Life, secretary.

The principal business of this meeting was the plan for revising the medical examiners lists of the Iowa companies and a resolution was passed calling upon each Iowa company to submit to the committee a new and revised list of its examiners with such comments as would enable the committee to advise with the member companies when new appointments are to be made.

The war caused considerable confusion in examiners lists due to the number of men who entered service and who moved to new locations upon their return to private practice.

It was the opinion of the members present that the quality of work done by the local examiner is showing marked improvement.

Dr. A. C. Page was elected president for the ensuing year and Dr. M. L. Turner secretary, succeeding himself.

The association will meet in November, 1921, at which time it is planned to hold a joint session with the Actuaries Club of Des Moines.

PERSONAL MENTION

Dr. C. D. Enfield, who succeeded his father in the practice of medicine at Jefferson, has removed to Louisville, Kentucky, and will be associated with Dr. Dowden, an expert in diagnosis, under the firm name of Dowden and Enfield.

Dr. N. M. Voldeng, superintendent of the Epileptic Colony at Woodward was suddenly attacked with appendicitis and taken to Methodist Hospital, Des Moines, and operated upon by Drs. Fay, Byrnes and Smith of Woodward.

Dr. H. L. Wyatt of Griswold has been called to duty in the United States Navy and will report on U. S. S. Alert stationed at San Diego, California.

Dr. J. W. Snow has located in Dow City in the practice of medicine.

Dr. Harry W. Brown has been appointed physician for Blackhawk county from July 1, 1921 to July 1, 1922, at a salary of \$200 per year, with \$3.50 for each additional call. The appointment was made upon motion of Supervisor A. T. Hukill.

Dr. E. B. Johnston, formerly of Benson, Minnesota, has located in Clear Lake, taking offices over the Cerro Gordo State Bank. Dr. Johnston is a physician and surgeon with more than twenty-five years' experience and is a graduate of Rush and Jefferson colleges.

Dr. and Mrs. F. S. Leonard and children, Frederick, Virginia and Janaan, returned recently from

an extended sojourn in the East, principally in New York, Boston, Philadelphia, Baltimore and Washington. Dr. Leonard took post-graduate work and attended many clinics in those cities particularly in New York.

Mr. and Mrs. Charles W. Crowe of 1816 Des Moines street, Des Moines, announce the marriage of their daughter, Edna H. Crowe, to Dr. Edward C. Brooks of Iowa City, which took place recently in Chicago. Mrs. Brooks was formerly technician with Dr. Eli Grimes and also was connected with the Iowa Lutheran Hospital. The past year she has been teaching in the medical college at Iowa City, where she met Dr. Brooks, who is a practicing physician there.

Dr. and Mrs. Brooks will spend the summer in Wisconsin, returning to make their home in Iowa City about September 1.

Dr. J. W. Holiday, a citizen of Burlington for more than half a century, suffered a stroke of paralysis Sunday, June 12, and was removed to Burlington Hospital, from his residence on South hill.

Dr. J. E. King, age ninety-six years, of Eldora, celebrated his birthday anniversary on Thursday, June 9, 1921. Dr. King located in Eldora in 1861 and has been a resident there ever since. Notwithstanding that he is nearing the century mark, his general health is good. He attributes his long life to the fact of regular habits.

MARRIAGES

On the afternoon of Thursday, June 9, 1921, at the La Salle Hotel in Chicago occurred the marriage of Dr. Harry L. Rose of Keota to Miss Beatrice Slinger of Charles City.

Dr. E. C. Yoder of Denison and Miss Leona McLean of University Place, Nebraska.

Dr. Frank Secoy and Miss Ethel Henry, both of Sioux City.

Dr. Chas. A. Katherman, Sioux City, to Miss Geraldine Visser.

Dr. Ken C. Peacock and Miss Bernita Whitehead, both of Sioux City.

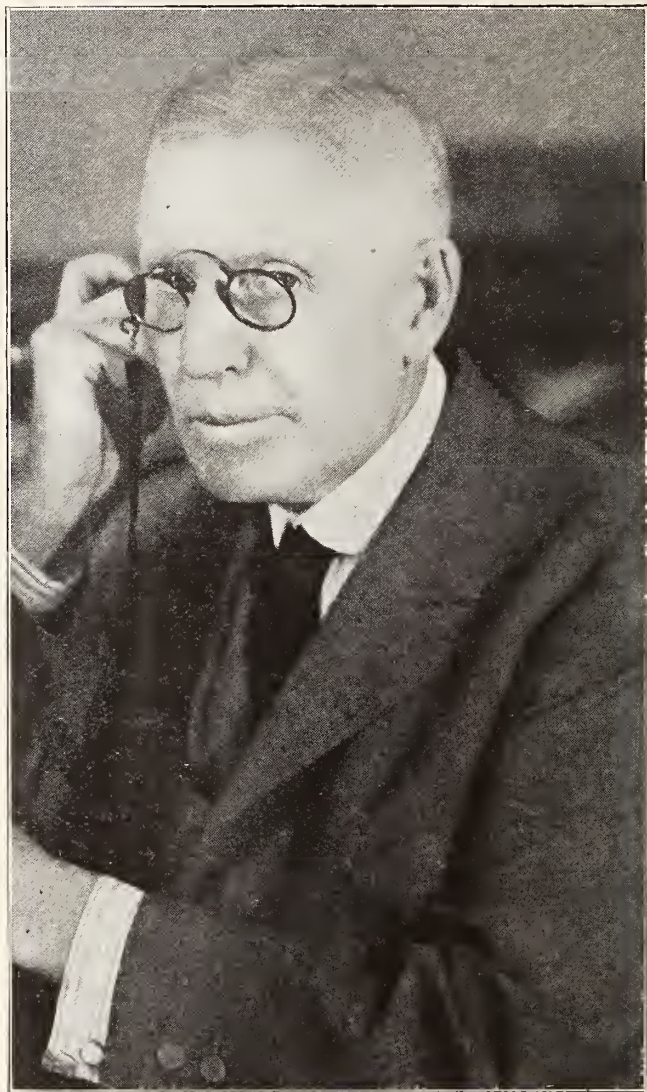
OBITUARY

Dr. Christian H. Herrmann was born at Eben-Ezer, near Buffalo, New York on October 5, 1849, graduated from the Iowa State University School of Medicine March 2, 1881, was a charter member of the Iowa County Medical Society, a member of the Iowa State Medical Society and of the American Medical Association, died at his home in Amana, Iowa, March 6, 1921, having been a member of the "Amana Society," a communistic organization now in Iowa county, Iowa, during his entire life.

Dr. Robert Emmett Conniff, 1417 Grand View boulevard, a pioneer resident of Sioux City and a

physician for thirty-seven years, died at his home. He was sixty-three years old.

Death followed a lingering illness of nearly three years. Dr. Conniff contracted influenza during the nationwide epidemic in the winter of 1918-19, and never recovered from its effects. He continued his medical practice until about six months ago, when his health began to fail rapidly. He spent last winter



DR. ROBERT EMMETT CONNIFF

in Florida and returned from there only six weeks ago. Dr. Conniff was born in Huston, Minnesota, April 20, 1858. He was the son of Sarah and Thomas Conniff. He moved with the family to Sioux City when he was ten years old, and was reared on a farm four miles east of Morningside.

Graduated from the University of Iowa Medical College in 1884, Dr. Conniff immediately returned to Sioux City, where he began a practice in partnership with Dr. George W. Beggs. He continued his practice in Sioux City until last winter. From 1904 until 1918 he conducted a partnership with Dr. S. E. Sibley. During this time he specialized in medical practice, leaving most of the surgical cases to Dr.

Sibley. He took post-graduate courses for a physician and surgeon at New York City University and at the University of Edinburgh in Scotland.

In September, 1886, he was married to Christine Schlawig, daughter of the late John Schlawig, a pioneer resident of Sioux City. Two children were born to them, a son, who died in infancy, and a daughter, Anna Marie Conniff, who besides her mother, survives.

During the World War Dr. Conniff saw six months' voluntary service with the army. He was stationed at Camp Logan, Houston, Texas, and was a member of the expert medical examining board.

Dr. Conniff was a member of the board of education for six years, during which time the present high school building was erected. He was a member of the Iowa state board of health for eighteen years, during part of which time he served as president.

Dr. Conniff was president of the Iowa State Medical Society in 1901 and 1902. He also was president of the National Tuberculosis Society for a year.

For thirty-five years he was an officer in the First Presbyterian Church. He was a Shriner, a Consistory Mason and a Knights Templar.

Dr. W. H. Heller, who has been connected with the Le Mars clinic for the past few years, died Thursday night June 9 at Lake Minnetonka, Minnesota, where he had gone for a rest. Dr. Heller, in company with Dr. W. L. Larson, also of the Le Mars clinic, went to Rochester, Minnesota, to consult the Mayo Clinic last week in regard to Dr. Heller's health.

Physicians at the Mayo Clinic advised him to rest a few days and return for an examination. He went to Lake Minnetonka the next day and died shortly after arriving there.

It was first thought that Dr. Heller was suffering from the after-effects of influenza, but the cause of his death is believed to have been a tumor of the brain. The seriousness of his condition was not known outside of his family and business associates.

Dr. William Henry Heller was born July 13, 1873, being forty-seven years and eleven months of age at the time of his death. He spent the greater part of his youth in and around Marcus. He was educated in the medical schools of the State University of Iowa and the University of Chicago. He practiced for seventeen years in Remsen and while living there he was married to Nettie Fry, who with one son, Robert, survive.

Dr. Leonard Briggs Oliver was born in Davenport, Iowa, January 20, 1858. Died June 10, 1921 at Chulu Vista, California.

He was married to Magdalena Oliver December 24, 1896 and practiced medicine in Sigourney twenty-nine years.

BOOK REVIEWS

EPIDEMIC RESPIRATORY DISEASE

The Pneumonias and Other Infections of the Respiratory Tract Accompanying Influenza and Measles. By Eugene L. Opic, M.D., Francis G. Blake, M.D., James C. Small, M.D., Thomas M. Rivers, M.D.; Illustrated. C. V. Mosby Company, St. Louis, 1921. Price \$6.50.

The experience of 1916-1917-1918 of deaths among soldiers from pneumonia, bronchopneumonia, and measles in consequence of complicating pneumonia, constituted in 1916, 16.8 per cent of the mortality in the army. In 1917, 61.7 per cent of all deaths. During the first half of 1918 the incidence of pneumonia steadily increased, and in July, 1918, the Surgeon General assigned a group of medical officers to study the pneumonia prevalent in the army. The group consisted of the above named authorities who had had an extensive experience in both civil and army practice. It would be quite impossible to review in detail the contents of this book which will be a permanent record of a period in our military history, painful to refer to; and yet, the reflection that active measures were taken to meet the condition at a very early moment by those high in authority with the cooperation of a devoted group of men of the highest skill in diseases of the respiratory organs is a comforting reflection.

It is fortunate that these studies and records were made, and they will be of great advantage in days to come. The volume contains a fund of information that may be drawn from by writers who may prepare the future text-books on epidemic diseases of the respiratory organs. Much credit is due to the publishers of this book, and they deserve well of the medical public. We feel that the contribution should have an important place among the volumes which relate to the history of the war.

THE AMERICAN YEAR-BOOK OF ANESTHESIA AND ANALGESIA

By F. H. McMechan, A.M., M.S., Editor. Surgery Publishing Company, 15 East 26th Street, New York, 1917-1918. Price \$10.00.

The Surgery Publishing Company some time ago added a department of Anesthesia and Analgesia to the important Journal of Surgery published by this company. The supplement appears quarterly under the editorship of Dr. F. H. McMechan who is also editor of the Ohio State Medical Journal. It now appears in the form of a year book with Dr. McMechan as editor.

The Year-Book, as a cumulative encyclopedia, provides the anesthetist, specialist, surgeon, dentist, research worker and hospital superintendent with those special advances that meet their individual requirements.

Fundamental studies in the pharmaco-physio-path-

ology of anesthesia and analgesia, of exceptional merit, have been included and as many of them have a direct bearing on the clinical handling of patients submitting to operations under narcosis, they are doubly significant and valuable.

All pertinent phases of the science and practice of anesthesia and analgesia, during 1917-1918, have been covered in collated papers and researches from the most prominent international authorities and the Year-Book is again a comprehensive and exhaustive post-graduate course. To those interested it is not a luxury but an everyday necessity as a reference volume.

Aside from series of contributions on complicating and safety factors of anesthesia, acidosis, blood changes, blood-pressure variations, pharmaco-physiopathological studies both in general and local anesthesia, methods of technic, especially those developed in war surgery and the newer methods of local analgesia in surgery, dentistry and the specialties, the Year-Book contains a cumulative index of the pertinent literature for 1917-1918, which is invaluable to anyone making a study of any phases of these subjects and needing the necessary bibliography for reference or teaching.

SURVEY OF CRIPPLES IN NEW YORK CITY

Under the Auspices of a Special Committee on Survey of Cripples. By Henry C. Wright. Printed and Distributed by the New York Committee on After-Care of Infantile Paralysis Cases.

The survey was inaugurated by the representatives of forty-one organizations, associations and hospitals in Greater New York engaged in work for cripples, at a conference on April 4, 1919, which was the result of the efforts of the New York Committee on After-Care of Infantile Paralysis Cases. The expenses were met by contributions from certain of these agencies and a liberal gift from the Rockefeller Foundation. There are about 36,000 cripples in New York. From this can be estimated the number of cripples in the United States and therefore, the importance of the subject. This survey and the recommendations should be extensively distributed. If any one desires a copy it can be secured by writing to Robert Stuart, director, New York Committee on After-Care of Infantile Paralysis Cases, 69 Schermerhorn street, Brooklyn, New York.

NITROUS OXIDE-OXYGEN ANALGESIA AND ANESTHESIA IN NORMAL LABOR AND OPERATIVE OBSTETRICS

A Monograph Prepared for the Benefit of all Those Concerned in Safer and More Efficient Obstetrics and Anesthesia. Published by the National Anesthesia Research Society.

This monograph of ninety-seven pages is divided into nine chapters and includes Historical Evolution, General Considerations, Relative Evaluation, Circu-

latory Changes, Obstetrical Anesthesia, Mother and Child, Studies of Results. Operative Obstetrics.

A large number of observers and anesthesists have been consulted and have borne testimony as to the value of this form of anesthesia. Practitioners who are interested in anesthesia will find much valuable information. The National Anesthesia Research Society have gone into the matter in a thorough manner and have presented with great care the merits of nitrous oxide-oxygen anesthesia.

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE OF THE UNITED STATES

For the Fiscal Year 1920. Government Printing Office, Washington, D. C.

This book contains a vast amount of information concerning the activities of the public health service. For many years great difficulty was found in inducing Congress to make suitable appropriations for this service. But the great advances in medical science in discovering the causes of infectious diseases and the means of preventing their spread, has impressed Congress with the importance of a well organized department of health for the study of diseases which often renders commerce a menace to the health of the nation. The experiences of the war have raised problems of the greatest importance that can only be met by a fuller development of health studies and a closer cooperation. During the fiscal year ending June 30, 1920, Congress provided better pay for medical officers engaged in this work in order to arrest the numerous resignations which threatened to seriously cripple the service, and also to provide better hospital facilities. The later conception of public health service promises a much better organization in the near future.

NEW AND NON-OFFICIAL REMEDIES

During June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-Official Remedies:

The Abbott Laboratories:

Saligenin.

Armour & Co.:

Suprarenalin Base.

Suprarenalin Ointment.

E. Bilhuber:

Santyl Capsules.

The Calco Chemical Co.:

Amidopyrine—Calco.

Hynson, Westcott & Dunning:

Tablets Mercurochrome 220—Soluble.

H. A. Metz Laboratories:

Orthoform.

Winthrop Chemical Co.:

Mesotan.

Non-proprietary Articles:

Amidopyrine.

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THE SPECIAL FIELD OF NEUROLOGICAL SURGERY AFTER ANOTHER INTERVAL*

HARVEY CUSHING, M.D.

Surgeon-in-Chief, The Peter Bent Brigham Hospital,
Boston, Massachusetts

Individuals engaged in scientific or professional pursuits have need of a periodical accounting of stock no less than those engaged in business. The results of such an inventory may sometimes be of more than personal interest, especially when projects have been undertaken which are in a measure novel or special, for their success or failure may encourage others or may deter them from similar adventures.

SPECIALIZATION IN GENERAL

In a sense, I suppose, every medical graduate tends in time to particularize to a certain extent, and through liking or opportunity comes to be known as more expert or better informed than his fellows in one thing or another. He may have had an unusual experience in relation to child-birth, shown unusual skill in dealing with the ailments of children or with the maladies to which their mothers are heir. He may have a mechanical bent and be particularly apt as a setter of broken bones or a corrector of deformities. He may be a particularly good microscopist or show greater facility than his contemporaries in the use of some other precise instrument of importance in diagnosis. He may have become engrossed in some special disease, indeed of some particular organ, or what is more, of some special form of treatment for a particular disease of a particular organ. His interests may become purely scientific or purely sociological and take him away from the bedside entirely. Of all this there is no end or ever will there be. For there are ways innumerable in science or practice in which we as individuals or groups of individuals come to particularize in our work.

The participant in this subtle process of spe-

cialization may not be always conscious of it, or, if so, may not wish to admit the fact even to himself and would encourage his employers, be they trustees, patients or the Commonwealth, that he is equally capable of dealing with all branches of his larger subject. On the other hand, the concentration of effort may be intentional and represent a desire to contribute to knowledge, rather than income, though they are not necessarily divorced, and for this the individual must perfect himself in certain directions rather than others.

Thus the specialist and specialties arise, but in the case of each of them, should progress cease after a generation or two, it is inevitable that the imitators of the pioneers will diminish in number as well as quality. And when this time comes, following a period of more or less disrepute, the particular species of specialist dies out, and the prodigal specialty returns to, or should return to, its parents. If this happens, the reunited household will unquestionably have profited by the episode.

Medicine has grown in the fashion of a Banian tree. In the beginning there was a single stem. This, in the remote past, each professional aspirant learned to climb, and in his lifetime could encompass without difficulty all the knowledge its various branches represented. But from the main branches which the original tree put out, particularly from physic and surgery representing the application of medical knowledge to practice, there soon dangled many roots. Some of these finally reaching the ground became attached, and drawing up their own nourishment have in some cases enlarged and become permanent and necessary supports to the parent branches.

Modern aspirants sometimes climb these outlying props, mistaking them for the main stem or believing that they have found a short and less crowded way to the top where others they wish to emulate are seen to perch. The temptation is great and to some irresistible, but short cuts to specialization without thorough prepara-

*This address was made to do double duty before the Tri-State District Medical Society at Waterloo, Iowa, October 7, and the Cleveland Academy of Medicine, October 8, 1920.

tion in the fundamentals make incompetent if not dangerous practitioners, and so long as this is permitted within the profession itself we should be less tolerant of those who have smuggled themselves into the tree with no medical preparation whatsoever—the osteopath perched insecurely on a limb propped by massage and the Christian scientist tip-toe on another feebly supported by psychotherapy.

Be this as it may, in time there has come to be a veritable grove of trunks and every season new roots become grounded in such increasing numbers it is difficult for the untutored to realize that the growth really represents a single tree. To be sure, an outlying prop to a limb may occasionally dwindle and disappear as botany has disappeared; or after a period of temporary vigor it may become incorporated with an adjacent and more vigorous one, but the general tendency is for a further and rapid multiplication rather than for any reduction in number, for, though no longer needed, an old prop dies reluctantly if once it has come to support an important branch.

Near the center of the tree are two particularly large parent branches, one of them perhaps more flourishing and well supported of late than the other, but both of them apparently essential to the welfare of the tree. From legend alone do we learn which of the two probably represents the main stem and which the secondary offshoot. Whether physic was a specialty which branched off from general medicine before surgery, or surgery physic, is not quite clear.

In its Westerly transplantation to different countries in successive eras the tree of medicine to be sure has not always put out the same branches in the same way. We may recall the words of the distinguished Philadelphian, John Morgan, who in 1765 on his return from Edinburgh announced in his justly celebrated discourse his intention of limiting himself henceforth to "those cases which belong most immediately to the office of a Physician" and of no longer "interfering in the proper business of "Surgery." From this it could be argued that the practice of physic thus withdrawn from General Medicine which included handicraft, became in this country at least the first avowed specialty. For the real standard of specialization is the determination to avoid diffuseness by withdrawing from participation in the wider field and devoting oneself to a more limited one.

One might pursue this subject further and trace the development of some of the various secondary offshoots both of physic and surgery in the past and see what has happened to them—

whether they have taken secure root and continued to flourish or whether after a generation or two they have either died back or become incorporated again with one of the main stems by fusion—but interesting as this might be it is not the purpose of this essay.

New specialties at present undreamt of will continue to arise. It takes little to start one. The diseases incidental to a novel occupation like aviation, the introduction into the clinic of a new discovery, like Wassermann's reaction, or Röntgen's Ray; a new instrument of precision like the calorimeter—such things as these will make a succession for all time of unlooked for opportunities for us and our followers in medicine to engage in new endeavors under novel conditions.

These must be regarded as accidental occasions for specialization, to be distinguished perhaps from the purposeful determination to specialize within an established branch long occupied. But under both circumstances those who can best take advantage of existing opportunities or can originate others, not only must have had a good general training in medicine and surgery, but must have been thoroughly schooled in the fundamental subjects—in the anatomy, physiology and chemistry of morbid as well as of normal tissues and organs, for without these things any special branch is supported by a root lodged in sand which does not long survive overloading. There is only one way to get a secure seat on any outlying branch and that is by approaching it from the main stem, no matter how wearisome, laborious and time-consuming this process may be.

SPECIALIZATION IN PARTICULAR

In 1905¹ and again in 1910² a paper was read before the Cleveland Academy of Medicine under this selfsame subject of Neurological Surgery as a specialty. The first of them was written shortly after the decision was made to limit my operative surgical work to what seemed to my several advisers, and indeed to me at the time, to offer small pickings. There had dangled for long from the branch of surgery, if we may continue with our Banian-tree simile, a wisp of root over a very unpromising patch of soil. It had become attached on more than one occasion, though feebly to be sure and tested thoroughly by Agnew in this country and later by von Bergmann in Germany, it had for reasons not far

1. The Special Field of Neurological Surgery. Cleveland Med. Jour., Jan. 1905, iv, 1-13; also Johns Hopkins Hosp. Bull., Mar., 1905, xvi, 77-87.

2. The Special Field of Neurological Surgery: Five Years Later. Cleveland Med. Journ., Nov., 1910, ix, 827-863; also Johns Hopkins Hosp. Bull., Nov., 1910, xxi, 325-339.

to seek been abandoned as both unfruitful and unsafe. Later on, Victor Horsley turned his brilliant mind to the subject with far greater success than his predecessors, though he showed more interest and perhaps skill in its physiological than in its purely surgical aspects.³ Specialization is an uncompromising mistress. It was an avocation of Horsley's not a subject to which he limited himself, and though he had imitators he left no disciples.

It hardly seemed possible fifteen years ago that the surgery of the nervous system by itself could furnish material enough to occupy a surgeon's undivided attention and insure him a livelihood, far less that it would promise opportunities within itself for further specialization on subjects like tumors of the brain in general or tumors of the pituitary body in particular. Time has shown indeed that these early misgivings were unfounded, and that there is not only an appeal but abundant opportunity for special workers who plan to restrict themselves to this outlying branch is evidenced by the fact that a number of surgeons interested in the nervous system have organized themselves into an Interurban Neuro-surgical Society in the expectation thereby of making more rapid progress in this specialty through an intimate interchange of opinions made possible by clinical meetings.

It is impossible within the limits of an address to enter at all fully into an account of all that has transpired in the field of neurological surgery during the past decade, far less to give anything more than hints of what lies before us in the way of problems. I shall restrict myself, largely, to some of the topics which have engrossed the attention of my coworkers and myself during the interval, though they represent but a small portion of the larger work in which many have become engaged.

To conform more or less to the plan of my former papers I shall allude in turn to the surgery of the brain, the cord and the peripheral (cranial and spinal) nerves,⁴ with such comment and di-

gressions as I may be led into under these separate headings. But before entering on these subjects I desire to say something about a mysterious personal quality necessarily possessed in varying degrees of perfection by everyone who does something with his hands—namely his technique.

Neuro-Surgical Technique—Perfection in the conduct of his therapeutic measures is as essential for a surgeon as is the technique of laying on colors for an artist or of producing sound for a musician. One may have abundant knowledge of art or music or medicine and yet be a poor performer. In surgery a proper technique is by no means the only element of success but it is an important one.

Let us look back for a moment on the conditions at the beginning of the century, when from our present standards the methods of conducting both cranial and spinal operations were crude beyond the belief of our juniors who happily know better times. The day of the mallet and chisel for opening the skull was not far removed. An exploratory exposure of the brain was looked upon by the prospective patient with the same dread with which an abdominal operation had been regarded a generation before, and by the surgeon with comparable misgivings. Few if any operators ventured to undertake one of these procedures except under the direction of a neurologist, and only then when conditions had advanced to such a point that the diagnosis could be made beyond peradventure, though by this time, alas, in the presence of tumor, tension within the skull had become extreme. This made a procedure with inherent technical difficulties extremely hazardous, not alone, at the moment of its performance but the ensuing complications due to imperfect and hasty closures led with disheartening frequency to complications which sometimes prolonged an existence worse than the original disease.

The most crying need, therefore, in the early years of the century was for an improvement of our technical methods under the realization that what had sufficed for other organs and tissues when applied to the surgery of the nervous system was disastrous. Therein lay the failure of Agnew and von Bergmann.

Fifteen years ago we were scarcely at the dawn of an understanding of purposeful decompression for brain tumors. To be sure, the observation had been made and reported more than once that after an occasional osteoplastic exploration which either revealed no growth, or one supposedly unremovable, an entirely unexpected amelioration of subjective symptoms had taken place. How-

3. One of his colleagues, indeed, at the National Hospital went so far as to make a study of the brain tumor cases operated upon there, and concluded that the average duration of life of patients thus afflicted was longer without than with an operation.

4. There is, too, a surgery of the sympathetic nervous system, poorly developed it is true and hardly recognizable even in this its experimental stage. We have had glimpses of it in certain operations for goiter, in certain forms of treatment suggested for Reynaud's disease, and the proposals by Leriche, in regard to a purposeful surgical paralysis of the vaso-constrictor nerves which accompany the blood-vessels, are straws to show the direction of the wind.

The influence of the vagus and the splanchnic nerves upon the viscera; the relation of emotional states to metabolic stability; Cannon's experimental anastomoses between phrenic and cervical sympathetic, with their remarkable sequel—these things indicate what may lie before us if imagination is turned to the application of some of the facts known to physiologists regarding the automatic nervous system.

ever, inasmuch as most of these early operations had been confined to the more accessible central region of the hemisphere these subjective benefits were more than offset by post-operative paralysis from protrusion of the tense brain through the cranial defect. When the idea of a purposeful decompression over relatively "silent" portions of the brain, conducted, moreover, in areas like the temporal and suboccipital regions where an undue extent of protrusion is checked by securely closed extracranial muscles—when this idea finally took hold, the old explorations which had resulted in a certain measure or relief were resurrected and tabulated as decompressions in our modern sense, which they were not either in reality or intent.

With the development of a reasonably safe and satisfactory procedure for relieving tension both for cerebral and cerebellar lesions, and one which of itself did not lead to paralyses, these palliative operations began to multiply and it soon became apparent to all that the accepted views regarding the cause of what was called optic neuritis resulting in atrophy and blindness in tumor cases would have to be revised. For it was obvious that an inflammation of the nerve could not explain a process capable of being checked by the mere relief of pressure, so long as the tumor, to which the supposedly toxic neuritis had commonly been ascribed, remained unremoved.

Inflammations of the optic nerves due to toxic substances and capable of producing atrophy doubtless exist, but changes in the nerve head observable to the ophthalmoscope are infinitely more often due either to an increase of cerebrospinal fluid tension or to direct pressure on the nerve by tumors in the region of the chiasm than to any other cause—so much more often that rhinologists and ophthalmologists must needs pause before venturing to make the popular diagnoses of the day which lead so often to unnecessary operations on the accessory sinuses.

I cannot speak for others, but for myself the subtemporal and the suboccipital operations are, in the long run, the two most useful procedures in cranio-cerebral surgery though, as is true of all operations, they are by no means perfected and there are right and wrong ways of performing them.⁵

The *subtemporal decompression* I would place first on the list. It may be employed as a tem-

porizing measure even in the presence of a localizable lesion, but it is of chief value in all unlocalizable cerebral tumors. Naturally, since the bone defect is made purposefully over the relatively silent temporal lobe, the growth may at times be unexpectedly disclosed. In the presence, moreover, of a questionable cerebellar lesion, the existing symptoms being hardly such as to justify the more elaborate and difficult posterior exposure, the measure may be used as an aid to diagnosis. For the existence of an obstructive hydrocephalus can be determined under these circumstances by a puncture of the temporal horn of the lateral ventricle, a matter of considerable localizing value though it is to be admitted that in the presence of a hydrocephalus a decompression over the cerebrum gives but slight pressure relief.

The routine operation which may be regarded as of second importance is the *combined osteoplastic exploration and decompression*. With the boneflap so placed that its base is in the temporal region, the squamous wing of the temporal bone may be rongeured away after the flap is reflected. Though surgeons in the past have sacrificed without hesitation large portions of the calvarium in eradicating tumors, and occasionally this may be necessary even now, yet it is highly desirable that the cranial chamber should be kept as intact as one's skill and the conditions permit. It is also desirable for many reasons that an operation for tumor should be conducted whenever possible in a single session, and the old two-stage performances, provided there is careful blood-stilling, are less and less frequently called for.⁶

The third procedure, the *typical cerebellar exposure*, is a still more difficult operation and necessitates elaborate preparations and skillful team-work if a long series of these measures are to be carried through with a minimal mortality. In this performance the steps are practically the same, whether it resolves itself into a decom-

6. When a tumor extirpation is anticipated, as in the case of a large endothelioma, a two-stage operation admittedly continues to be often required for there is apt to be undue loss of blood during the elevation of the flap, and there is almost certain to be still more in a certain stage of dislodging the tumor. Under these circumstances I feel that a dural opening at the first session should be limited to the temporal region to allow a protrusion in correspondence with the subtemporal defect—in other words, with the area of bone rongeured away from under the temporal muscle. This will permit the upper portion of the flap to be replaced over an intact dura to await a second session, a certain measure of pressure relief being meanwhile secured. Should the dura be widely reflected at the first session and the tumor exposed with inevitable protrusion of the hemisphere, this would make one of two things necessary—either an immediate attempt at tumor extirpation which might be more than the patient could stand, or stripping off the reflected area of bone and replacement of the scalp alone, a procedure which leaves an unnecessarily large cranial defect. One may be occasionally compelled by poor judgment or force of circumstances to accept one or another of these awkward situations.

5. I would have felt ere this that the principles of a subtemporal decompression were so well understood that it was a safe measure in the hands of every general surgeon, but we still see so many sorry results of so-called decompression operations with bone flaps elevated in the region of the temporal attachment and often on the left side, that the happy time does not seem to have come as yet. A detailed account of the measure, long delayed in publication, has just appeared in the *Text-book of Surgical Diagnosis and Treatment*, by American Authors, Ed. by A. J. Ochsner, 1920, i. 407-448.

pression or in the more or less complete removal of a tumor should one be disclosed. It is a long two-hour operation at best—an hour for the full exposure and another for wound closure—but when tension is great, when there is threatened respiratory difficulty so that a ventricular puncture in the course of the early stages is called for, or when there is a recess tumor which requires long and careful manipulations, or a tumor of the mid line which necessitates removal of the arch of the atlas and prolongation of the dural incision down over the spinal canal as far as the axis, the performance may well require an extra hour or two.⁷

Since the war, influenced by DeMartel's experiences as well as by our own, I have made a few of these cerebellar exposures under a local anesthetic, and though it is possible, I do not feel that I can do quite as perfect an operation in this way as when the patient is etherized, even though this in itself adds an element of danger. Under a local anesthetic the long seance becomes still more protracted, and by the time the patient begins to ask if you are not nearly through one can hardly resist the temptation to exceed his established speed limit, to cut corners and thereby pave the way for accidents.

These then are the three standard types of operation, though there are innumerable modifications of them. Each surgeon in accordance with his particular training and tastes will have devices of various kinds to overcome difficulties as they arise. These technical idiosyncrasies do not affect the three main issues—the exposure of the lesion, its safe and proper handling, the painstaking closure necessary for a wound which may subsequently be subjected to considerable tension.

I have emphasized before, and must emphasize again, that there is no field of surgery in which fastidiousness is more essential to success. Imperfections in technique in the course of operations on other parts of the body where other tissues than those of the central nervous system are concerned may delay recovery but not necessarily impair an end result. But corresponding slips which compromise the function of the nervous system may sometimes leave mental or other disturbances which are irrecoverable and to which death is preferable.

The surgeon who feels a due sense of respon-

sibility regarding these difficult cases and would reduce post-operative deformities and accidents to the minimum must often put all the reserve he has into a single operation. Without injustice to the patients more than one stereotyped measure like a trigeminal root avulsion or subtemporal decompression may be undertaken in a single morning, but in the case of the more arduous and uncertain procedures the physical strain and responsibility may be such that he would be foolhardy and negligent of his patients' welfare who would venture upon a succession of these tasks.

Then, too, there is no group of patients who require a more detailed preoperative study, in which I feel that the surgeon is obligated to engage, and this with attention to laboratory studies which, in a new specialty are particularly to be encouraged, is about all that can be properly attended to. It is not the number of cases operated upon which have made contributions in surgery possible, but the detailed and careful analysis of the few, in conjunction with allied laboratory investigations.

Surgical technique may seem to be a thing entirely apart from the bedside study of patients preliminary to operation and from coincidental investigations in the laboratory.⁸ In a certain sense it is a thing apart and we are all familiar

8. Though there may be differences of opinion in the matter, I, personally, feel that for the development of surgical technique no place is comparable to the experimental laboratory, and I feel that every young surgeon should begin to acquire his operative training in a series of operations on the lower animals. Certainly in the case of neurological operations one should learn on the lower animals the art of trephining, of the use of bone wax, of handling the cord and brain without the production of contusions and extravasations, of dealing with the cerebrospinal fluid which is the keynote of many intracranial operations. The most clever, neat and skillful of the younger generation of neurosurgeons in the country whom I have seen at work, have learned their surgery of the nervous system in this way. It has the double advantage of giving them a sufficient laboratory experience to enable them subsequently to pursue to the only place they are likely to be solved some of the many problems which arise. It was fortunate in my own case, and in that of my early co-workers in Baltimore, that the Hunterian Laboratory was available for this purpose. But with all this concerning the technique of operations we must not forget that there is a technique of examinations, and that a thorough, orderly and well conducted neurological study of a patient which demands the use of many instruments of precision necessary for tests of the special sense organs, is an art in itself. The examination of the eye is unquestionably the most important of all, and without the ophthalmoscope we would be quite helpless.

But in matters of localization the perimeter is of even greater value. In the series of papers (of which one or two are still to appear) on the Fields of Vision in Cases of Brain Tumor, published successively with Drs. George J. Heuer, James Bordley, Jr., and Clifford B. Walker we fell into an unquestioned error in relation to peripheral interlacing of the color fields. These observations were due to inexperience, and with the highly perfected methods developed by Dr. Walker corresponding field changes were no longer observed. They were due partly to an imperfect technique but more to erroneous interpretations of the responses of inattentive and easily fatigued patients. Naturally, therefore, color interlacing was found to disappear after operation.

Our faulty observation need perhaps not be greatly lamented for it unquestionably served to reactivate interest in perimetry which before that time, in clinics other than ophthalmological ones, was rarely employed and then only for gross defects.

7. A neurologist who recently had the endurance to see an acoustic tumor operation carried through on one of his patients to its conclusion with detailed wound closure, layer by layer, suddenly exclaimed: "I see now why my patients who have recovered heretofore after cerebellar operations have all had bulging necks. I had come to think it inevitable."

with men whose operative technique exceeds their judgments as to when it should be put to use. We have all known, too, surgeons who were somewhat awkward craftsmen but who possessed such a thorough knowledge of disease and its processes as to completely atone for their possible lack of manual dexterity. Of the two, the latter are often the more safe. Surgeons with both qualities highly developed are alas, not a common breed. The patient, unfortunately, though he pays admission, has not the privilege of viewing the performance else he might like to see his appendix removed with a flourish and to applause. His active interest begins when the curtain falls and he is then apt to find himself more comfortable if the audience thought it a tedious and dull show.

In the manufacturing arts, particularly in this country of ours, subdivision of labor has developed to such an extent that no workman makes a completed object. He may excel in the rapidity with which he may drive rivets, in the skill with which he may attach a given piece to an article, of whose remaining parts he has little knowledge and less interest. It is possible in this way, doubtless, to make a greater number of these articles and hence, if they are to be sold, to insure a greater remuneration for someone, but it does not add to the happiness or satisfaction of the artisans. On the contrary it deprives him of the supreme satisfaction of creating something from the bottom up in which though an artisan he comes to take artistic pride.

This is one of the underlying sources of the unrest and dissatisfaction of the laborer. There is something of this tendency in surgery today. Ten or more goiters or hernias treated, or appendices removed, in a morning is not an uncommon record, but none of them are completed in a thorough-going sense by one person—the chief surgeon may spend but a few moments at the task, the more essential moments to be sure—and it is remunerative, but it puts him on the basis of that form and specialist whose sole task is to give the final adjustment to the car-buretor as a succession of newly-assembled motor cars pass him by. This, I do not believe, leads either to real satisfaction in one's professional work nor to the greatest excellence in its quality.

It was said of Godfrey Kneller who painted portraits innumerable that he only did the faces—others in his studio particularly skilled at portraying hands and wigs and gowns filled in the rest of the picture. The quantity was great and the canvases show it.

(Continued in October Number)

MELANO-SARCOMA OF THE CHOROID* (Case Reports)

WM. H. JOHNSTON, M.D., Muscatine

The cases I here report were all ones of melano-sarcoma of the choroid of the eyeball and I shall confine my preliminary remarks to tumors affecting this structure only.

Of all malignant neoplasms of the eye in adult life sarcoma occurs the most often. It has been shown that of all the pathological conditions affecting the entire eyeball, it occurs in from .03 to .06 per cent of all cases. (1) It seems to show no preference for either eye, most cases occur between the ages of thirty-one and sixty years. According to one author (2) who gives a very exhaustive report, sarcoma occurs more frequently in males than females. Injury does not play an important part in causation. The melanotic is more common than the non-pigmented type. Eighty-five per cent of uveal sarcomata are in the choroid. Statistics of Fuchs' and Pawel show that melanotic sarcoma of the choroid occurs six and one-half times more frequently than the non-pigmented variety. In the study of sixty-seven cases Kirshbaumer found that 13 per cent were melanotic, 40 per cent not pigmented and 40 per cent were pigmented with pigment derived from the blood. Of the sixty-eight cases but eight were of the true melanotic type. According to this, we may say that melanotic sarcoma of the choroid is quite rare. In the early stages, the growth is mushroom in shape due to the fact that it grows twice as fast laterally as it does in thickness. In contrast to the above statistics, the three cases I report, were all in females and all three were in patients between sixty-five and seventy-two years of age.

These tumors are very vascular, hemorrhage into the eyeball is common and to this is probably due the glaucomatous symptoms which occur sooner or later. The pigment of the cells may be formed by the cell itself or may come from the blood. The latter is found close to the blood-vessels and the former some distance from them. Some observers state that the pigment comes from the pigmented layer of the retina.

Etiology—Injury seems to play a minor role in the causation. Fuchs' cases show that 11 per cent were traced to injury, while others report injury as a cause in about 5 per cent of cases. Leiplat reports a case of carcinoma of the choroid secondary to cancer of the breast.

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Symptoms—These depend altogether on the stage of the disease at which we see the patient. For convenience we may divide them into three stages: 1. The pre-glaucomatous. 2. The glaucomatous. 3. Where the tumor has grown to such an extent that a part of it is outside the eyeball. Unfortunately many patients are not seen until the last stage, when removal of the eyeball offers a most grave prognosis. In the first stage the patient will complain of defective vision which will progress quite rapidly. A sudden decrease in vision may be due to small intraocular hemorrhages. The perimter will show a scotoma which will increase in size as the tumor grows. The retina may or may not be attached to the tumor, but this condition may be differentiated from idiopathic detachment, in that at the circumference of the tumor, the blood-vessels may be followed up over the same, while in detachment, the blood-vessels cannot be followed over the elevation due to a folding of the retina. Retinal detachment usually becomes complete, and if the lens remains clear the vessels may be easily seen. In the glaucomatous period the tension will be much increased, due to hemorrhage, or to pressure of the tumor blocking the filtration angle. Where the tumor is located anterior, these symptoms will come on earlier. This occurred in one of the cases here reported, where the history of an acute glaucoma was the first warning of any trouble in the eye and in this patient it was just nine years before the eye was enucleated. In some cases the pain from iridocyclitis is very severe as illustrated in case 2. In this patient there was also a marked rise in tension. The lens may become cataractous and render diagnosis difficult until the growth has become extra ocular, when there will be exophthalmos. Metastatic formation takes place in liver, lungs and stomach in order of frequency. In case two reported the liver was the point of secondary formation. Sympathetic inflammation is a possibility as cases have been reported by many observers. Again, Wintersteiner reports two cases of sarcoma of choroid in which there were no symptoms.

Diagnosis—The first symptom is a disturbance of vision due to the tumor formation. This point may be seen with the ophthalmoscope unless it be located very far forward. In the latter case the transilluminator of Wurdemann is a very useful instrument. If the growth is located more posterior and below, the transilluminator of Hertz used in the mouth may be of assistance. One observer diagnosed a case by removing and examining microscopically a small mass which had accumulated in the anterior chamber. Ries, how-

ever, warns against any exploratory operations in supposed intraocular tumors, since they are apt to produce extra ocular propagation or general metastases. He advises removal of all blind and painful eyes. Nineteen cases of sarcoma of phthysical eyes have been reported by thirteen different authors. The diagnosis is not so simple as it might seem, especially when the lens is opaque and many are diagnosed after the eyeball has been enucleated. Such was the case in one of the patients here reported.

Prognosis—Depends on when the condition is diagnosed and the eyeball removed. If this is done when the tumor is small the prognosis is very good. A guarded prognosis should always be given however, as tumor cells may be carried to some distant part of the body even though the tumor be small and producing few symptoms. Lilly reports a case of death from melanotic sarcoma of the liver eleven years after enucleation of eyeball for a similar condition. Lediard reports a parallel case three years after enucleation of the eye.

Treatment—Enucleation of eyeball as soon as diagnosis is made. If the tumor is extraocular the orbit should be exenrated. In the past nine years I have had just three cases of sarcoma of the choroid and I wish to briefly report these.

Case 1. Mrs. L., age sixty-six, consulted me on May 22, 1915, complaining of pain in the left eye and in temple and complete loss of vision in this eye. Nine years previous had an attack of what seemed from the history to have been acute glaucoma and she stated that vision failed rapidly and she had pain in the eye almost constantly since that time. Vision in the right eye was corrected to 20/15 with sph. +2.75. Left eye had no light perception. Pupil 5 m.m., immobile, greenish color, lens opaque, cornea steamy and insensitive, anterior chamber shallow, no exophthalmos, tension +3. Transillumination was negative owing to the fact that the lens was opaque. The eye ball was not inflamed, was not tender on pressure, motions of the eye ball were normal. A diagnosis of glaucoma was made and advised removal of the eyeball. This the patient refused and she was given eserine gr. 1 to the oz. Dionin 5 per cent to use locally and was asked to report again. I did not see her again for about two years and she stated that the pain in the eyeball had been constant and was becoming more severe. Her general health was not so good as usual and she had lost some weight. She consented to have the eye removed and it was at this time that the tumor was discovered. It had perforated posteriorly but was well encapsulated and did not extend back along the optic nerve. Owing to the patient's general condition being very poor and the fact that the tumor was encapsulated the orbit was not exenrated. The

socket healed normally and an artificial eye was given in about a month. Her general condition did not improve and she died about six months later from metastases in the liver. There was no autopsy. If a diagnosis of sarcoma could have been made when patient first came for consultation it is quite probable that she would have consented to operation. The tumor in this patient seemed to be slow in growth if the history can be relied on. If the eye had been removed in 1915 she might have had several years added to her life. Can anyone add anything to aid in the diagnosis of these cases when seen at this stage? The microscopic examination of the tumor showed that it was a melanotic sarcoma of the choroid which had broken through the sclera posteriorly. The mounted specimen is here shown.

Case 2. Mrs. V., age seventy-two. Consulted me on August 4, 1917, complaining of pain in left eye for the past two months and of failing vision. The pupil was 6 m.m. irregular and did not react to light or accommodation, there was ciliary injection and tenderness on palpation of the eyeball. She said that at times she saw rainbow circles around lights. With sph. +1.00 her vision was 20/100. The lens was clear but there were many opacities in the vitreous. I was unable to make out any tumor by transillumination. A diagnosis of irido-cyclitis was made and she was given a solution of atropine to use at home, she was to return again in two days. The day after she was here she fell and fractured her femur and has been unable to walk since then; she was unable to return when requested. I heard from her occasionally but did not see her again until October 9, 1919, when the eye was much inflamed, the lens opaque and the vision gone. The tension was not increased since the first examination. At the upper and outer quadrant of the eyeball and attached to the sclera about 5 m.m. back of the sclera-corneal junction was a brownish colored mass about one-half the size of a filbert. It was mushroom in shape and very vascular. On enucleation there was another smaller growth located about 10 m.m. farther back. On section there was found a tumor mass filling about one-third of the eyeball, this seemed to have its beginning in the choroid just posterior to the ciliary body and opposite the external growth. Retina was completely detached. No microscopic examination was made. Patient is alive and well now.

Case 3. Mrs. W., age sixty-nine. Consulted me on January 5, 1915, to have the lenses of her glasses changed. Vision in the right eye was 20/40 when corrected with sph. +2.50. Vision with the left eye was 20/20 when corrected with sph. +2.00. Lens and vitreous clear. In macular region of the right eye there was a greyish white elevation, the lower border of which was dotted with many minute hemorrhages. The top of the elevation was seen best with +5.00. Tension normal, pupils react normally to light and accommodation. Blood pressure was 158, urine negative. A diagnosis of tumor of choroid was made and the patient was not seen again till May 18 of the same year. At this time there was a slight increase

in the size of the growth. Operation was refused at this time and she was not seen again till October 6, 1916. The vision was gone, the tension was +3 and there was a constant dull pain in the eyeball. On October 9 the eye was enucleated, there was a mushroom shaped tumor of the choroid about 8 m.m. in diameter and attached by a relatively large pedicle, retina entirely detached. There was no extension outside the eyeball. Microscopic examination revealed a melano-sarcoma of the choroid. The socket healed normally and she experienced no further trouble. She lived three years and died from an attack of pneumonia. (Specimen.)

In conclusion, the deduction gained from a study of these cases have been to me, first, the importance of early diagnosis and when diagnosed, the early enucleation of the eyeball.

EPILEPSY A SYMPTOM OF SPLANCHNOPTOSIS*

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The fact that chronic convulsive toxemia, usually called epilepsy, is constantly associated with displacements of the abdominal organs has now been demonstrated in 810 consecutive cases in my own hands. This demonstration has consisted of, first, the clinical history and, second, the physical examination of the patient; third, the serial x-ray study, and, finally, in the vast majority of instances, the surgical exploration of the abdominal cavity. This record, showing the additional and significant fact that the visceral condition is always antecedent to and associated with the convulsion phenomena, as shown by the earlier development of constipation, and the absence of both hereditary factors and extra-abdominal lesions, forces the conclusion that so-called epilepsy occurs only as a symptom of splanchnoptosis. This conclusion is further confirmed not only by my own observation but by the daily observation of every general practitioner to the effect that epilepsy is always associated with constipation; that the epilepsy is worse when the constipation is worse; and that the most effective, ready-at-hand relief from seizures is offered by laxatives. It was this fact, confirmed by surgical experience, that prompted me to write my first article on the subject under the title of "Constipation and Epilepsy" (1) and upon which I based my second article entitled "The Probable Cause and Logical Treatment of Epilepsy." (2) My later experience recorded in subsequent re-

*Abstract of paper read before the Southern Surgical Association, Hot Springs, Virginia, December 16, 1920.

ports; (3) has shown that constipation while antecedent to and associated with the seizures in these cases is, like the seizures themselves, a symptom of splanchnoptosis. The mere fact that many people who have splanchnoptosis do not have so-called epilepsy does not and can not in the least invalidate the observed and here recorded fact that eight hundred and ten people who did have epilepsy likewise had splanchnoptosis and that the development of the splanchnoptosis was antecedent to the epilepsy. The explanation of this difference, which will doubtless sometime be furnished through biochemic research, is something with which I have no concern in this connection. I am simply interested at this time in the basic fact, namely, that epilepsy is always associated with and is therefore a symptom of splanchnoptosis.

The basic fact, here affirmed, is susceptible of verification at the hands of every practitioner who sees these cases and especially by every institution now acting in a custodial capacity to large groups of these unfortunates. To begin with, the cases must be examined—really examined. This means that a thorough history must be taken. Then the patient must be stripped. The physical inventory should be carefully made, front and back, from head to foot. Special search should be made for possible foci of infection, not as primary but as ancillary factors in the case. The abdomen should be gone over, first, with the patient on his back; next, with him erect. A very little practice with abdominal percussion will enable the physician to detect the gastric note, the cecal note, the transverse-colonic note, sometimes the sigmoidal note. With the patient on his back, these notes will generally be found approximately in their normal positions, with the possible exception of the cecal note which in these cases will always be found low in the right lower quadrant, sometimes as low as Poupart's ligament. Now stand the patients up and it will be found that all of these notes, these separate areas of resonance, will have become obscured, more or less blended, by gravitation into the lower zone of the abdomen. The only note that does not thus migrate downward is that of the cardia which, however, is generally farther around to the left and toward the back. In other words, the viscera will have dropped. This examination is all very easy—and very, very important.

Then all cases, especially in the present status of the whole question, should be given an x-ray

study. When this study is done right it is very clarifying; when done wrong it is very misleading. It is done approximately right when the following rules are observed: (1) The patient should be free from all laxatives or enemas for at least twenty-four hours before taking the barium meal; (2) the barium meal should be taken at 9 o'clock in the morning; (3) the first picture, to show the stomach and beginning duodenal transit, should be taken ten minutes later—with the patient upright; (4) the second picture, to show conditions at the ileo-cecal juncture, should be taken at 3 o'clock in the afternoon—with the patient prone; (5) the third picture, to show the condition and position of the colon, should be taken at 9 o'clock the next morning—with the patient upright. These pictures are essential, others (after ingestion) to show (a) completed transit or (b) relative positions of colon prone and standing; or (after enema) to show (c) redundancy or not of the sigmoid; (d) ileo-cecal competency or not; or (e) other conditions, may be taken or not according to the indications of the individual case. Of course decensus of the liver and kidneys is not shown by the x-ray but may be detected by careful palpation in different positions.

The ease with which all of this can be done, and the importance of the facts thus elicited, make such examination of these cases an imperative duty not only for individual practitioners but for institutions. I can not resist this opportunity to insist more especially upon the duties of institutions in the premises.

1. All institutions for epileptics should be provided with a well-equipped, competent and liberally supported roentgenologic service.

2. There should be a roentgenologic survey of the entire epileptic population of all public institutions for the purpose of determining the condition of the abdominal viscera.

3. The diagnosis should be individualized in each case with reference, first, to visceral causative factors; and, second, to available treatment with the object and understanding that the treatment in all cases should be directed to overcoming such visceral conditions either by medical and hygienic treatment or, when necessary, by surgical restitution of the parts.

The same rules apply, with possibly greater force, to all hospitals for the insane—but that is another story.

1. Cincinnati Lancet Clinic, July 25, 1914.

2. Journal American Medical Association, March 27, 1915.

3. Ibid, January 29, 1916; September 20, 1916.

TRAUMATIC PULSATING
EXOPHTHALMOS*

With Case Report

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Pulsating exophthalmos is a diseased process of rare occurrence, the symptoms of which are due to some vascular anomaly whereby the systolic pulse of the carotid is transmitted to the orbital contents or veins. In all about 350 cases have been reported since the condition was first described by Travers in 1809. According to Murray's¹ statistics 71 per cent of all cases of pulsating exophthalmos are of traumatic origin.

Traumatic pulsating exophthalmos is most frequently found in men between the ages of thirty and fifty which corresponds to the most active period of life, however, the condition may be found at any age. De Schweinitz and Holloway² in their analysis of sixty-nine cases of pulsating exophthalmos forty-four of which were of traumatic origin find seven in which both eyes were involved, with the youngest in their series four years of age and the oldest fifty-eight. Penetrating wounds of the orbit occasionally cause this condition but by far the greater percentage of cases come from falls or blows about the head and are associated with fracture of the base of the skull.

The symptoms may appear almost immediately after injury or part of the symptoms appear immediately and the pulsation and exophthalmos come on many months after the accident. Objectively we find exophthalmos with pulsation synchronous with the systolic pulse. The exophthalmos is usually quite pronounced and the lids frequently do not fully cover the cornea thus predisposing to keratitis. Proptosis is usually down and out but may be straight forward and down. The pulsation is found with maximum intensity in the upper and inner part of the orbit and upon palpation a distinct thrill is felt at this point. The lids are swollen and the conjunctiva chemotic. The veins about the globe and orbit are congested. Upon compression over the common carotid in the neck the symptoms become less marked or disappear. With the ophthalmoscope the retinal veins may be enlarged and tortuous, hemorrhages are sometimes present and the vitreous may become turbid and papillitis develop. The iris sometimes is discolored and the pupil dilated. Sight may remain normal or diminish to complete blindness and at times the visual fields are re-

stricted. Paralysis of the external ocular muscles may be present. Usually abducens paralysis is most frequent and most apt to persist. In De Schweinitz series by combining his sixty-nine cases with the 138 previously reported finds there were immobility of the globe dependent on paralysis of the ocular muscles in 16.9 per cent, limitation of movement in all directions in 11.5 per cent, and involvement of the sixth nerve in 22.7 per cent. The ophthalmic division of the fifth also may be involved in this condition.

Subjectively there is pain in the head or orbital region, vertigo, feeling of pressure, ringing or blowing sounds may be heard and hearing impaired.

Owing to the limited number of cases of pulsating exophthalmos which have come to autopsy the exact pathological condition involved cannot always be determined. Arterio-venous aneurism of the internal carotid involving the cavernous sinus, aneurism of the carotid, aneurism of the ophthalmic artery in the orbit and aneurism of the ophthalmic artery posterior to the orbit or rupture of the vessels in cases of vascular tumors are the most frequent changes found in traumatic exophthalmos. There has been some controversy among the earlier writers regarding the changes causing this disease. Rivington³ makes the statement that true pulsating exophthalmos cannot be caused by aneurism of the carotid alone. Bull⁴ makes a similar statement, that in no case of aneurism of the carotid in the cavernous sinus which came to autopsy were there any signs of venous stasis, exophthalmos or pulsation during life. Bernard and Rugby reported an autopsy in 1904 of a typical case in which there was a sacculated aneurism of the intra-cranial course of the carotid which gave symptoms of pulsating exophthalmos. Jack⁵ in 1907 reports a case examined anatomically by Verhoeff which up to that time was the seventh actually proved by autopsy to be rupture of carotid artery into the cavernous sinus. The results of thirty-three autopsies up to that date he reports as follows; aneurism of ophthalmic artery in orbit 2, aneurism of the ophthalmic artery before its entry into the orbit 1; rupture of the carotid artery into cavernous sinus 7. To this latter he adds three cases reported by Sattler and two others as probably such, and one reported by Brandeis, aneurism of internal carotid in three, and one with carotid walls much thinned but no rupture, tumors five, internal hydrocephalus and orbital encephalocele one each and in six no aneurism or arterial lesion found. Quoting from De Schweinitz "Fracture of the base of the skull may

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injure the walls of the vessels so as to establish communication between the internal carotid artery and the cavernous sinus on one side, thus by adding carotid pressure to the return flow from the orbit causes vaso-dilatation and orbital pulsation. The communication between the vessels may be caused by direct rupture because they lie in the line of fracture, or are injured by splinter of bone. Following this venous distention on one side, there is an extension of the process through the transverse and circular sinus to the opposite side. Thus it will be found in bilateral cases one eye is apt to be involved before the other." The close relation of the ocular nerves to the cavernous sinus and the internal carotid particularly the sixth nerve in its relation to the carotid and the ocular division of the fifth, accounts for the frequent involvement of these nerves. Also, these nerves may be injured in the orbit by excessive dilatation of the orbital veins. Cases have been reported of penetrating wounds through the orbit injuring the carotid artery and cavernous sinus, thus causing pulsating exophthalmos. De Schweinitz suggests the possibility of injury to the vessels from concussion alone in cases where trauma is so slight as to make existence of basal fracture unlikely. Bull however does not consider concussion alone as a possible cause of rupture of the carotid artery, but thinks in these cases, there must have existed some diseased condition of the walls of the vessels that predisposed to rupture. This viewpoint is upheld by findings at autopsy in the case reported by Jack and Verhoeff, here slight injury of head caused rupture into the sinus of a previously existing aneurism of the carotid.

The diagnosis of traumatic pulsating exophthalmos is comparatively simple, and is based on the cardinal symptoms, proptosis, pulsation and subjective noises in the head. To these are added the history of injury, vertigo, and ocular motor palsy. Arterio-venous aneurism involving the cavernous sinus and carotid artery, may be differentiated from rupture of the carotid, or aneurism of the ophthalmic artery, as in rupture of the carotid there is paralysis of the ocular motor nerve, especially of the abducens, and in aneurism of the ophthalmic artery the vision is much affected on account of the lesion being in the orbit.

The prognosis in most cases is good. The carotid wall seems to heal in about half the cases either through natural causes or from the result of operation. Where death results, it is most frequently due to the condition upon which the development of the affection has depended, or as a result of complication following operative

measures carried out in order to cure the disease. In a small percentage of cases spontaneous cure has resulted. Key⁶ reports such a case in 1918 which after two weeks in the hospital was discharged with greatly diminished exophthalmos and but very feeble pulsation remaining. In cases developing considerable time after the injury, the prognosis depends upon the effectiveness or success of measures instituted to cure the disease. Visual results in the affected eye are not very encouraging. In De Schweinitz series seven became blind, fourteen with vision less than one-half, and but eleven with normal vision. The causes of defective vision are neuropathic and exposure keratitis with ulceration, panophthalmitis, iridocyclitis, glaucoma, intra-ocular hemorrhage, embolism, atrophy of the globe, and optic nerve atrophy. In some cases vision may improve as in Gifford's⁷ case which improved from fingers at two feet to 20/30 vision. Bedell⁸ reports a case operated on by ligation of the external carotid with the optic disc becoming blurred from the tenth day following operation, in the macular region, an irregular area of absorbed blood pigment, and throughout the fundus a very marked narrowing of all the vessels and by the fifty-first day complete optic atrophy.

Various modes of treatment for pulsating exophthalmos have been carried out. Such as ligation of the common or internal carotid, tying of the orbital veins, compression of the common carotid, compression of the venous swelling at the inner angle of the orbit, gelatine injections, administrations of certain drugs, the injection of astringent solutions into the orbit and rest in the recumbent posture. The operation most frequently employed is ligation of the common or internal carotid and De Schweinitz reviews thirty-four cases so treated with the following results, 48.6 per cent cured or improved, recurrence in 22.8 per cent, no improvement in 17.1 per cent and death in 11.4 per cent. The orbital operation or ligation of the ophthalmic vein or any dilated veins in the orbit have been successfully employed in a number of cases, seven cases so treated have been reported in De Schweinitz's work all with uniformly successful results. Gifford, Jack and De Schweinitz suggest that ligation of the orbital veins should be the operation of choice if a distended vein can be felt at the inner angle of the orbit. Any unfavorable results following this operation are only temporary. However, one death, due to extension of thrombus back into brain following ligation of super orbital vein has been reported. Compression of the common carotid has been resorted to in the treatment

of this disease with marked improvement noted for a time in some instances. Eversbusch⁹ claims to have cured one case by electrolytic action causing atrophy of the actotic veins. McGee¹⁰ reports a case in October, 1919, in which the eye was removed before ligation of the common carotid. Result in this case was cure of the pulsation. Oedema of the orbit did not entirely disappear, and still interferes with the wearing of an artificial eye and at times pulsation is noticed when artificial eye is being worn. Matthewson¹¹ reports a case of pulsating exophthalmos due to fracture of base of skull, operated on by ligation of the common carotid with cure of pulsation and proptosis. He was of the opinion that the optic nerve was injured at the time of the fracture, and at time of operation, vision was reduced to finger movement only, with no improvement after operation.

In connection with this subject, I wish to submit the following case report:

Mr. P. (white, male), age eighteen, personal and family history negative. He was injured in an automobile accident on November 11, 1917, was picked up in an unconscious condition with hemorrhage from nose and ears. A bilateral internal squint was noted at this time by the attending physician. Two weeks after date of injury, he was brought to Des Moines, and entered the Methodist Hospital where skiagraphs were taken of the skull and neurological examination made by Dr. Ely who diagnosed his condition as a case of fracture of the base on the skull, involving the sphenoid. Patient's mentality was still disturbed. He was belligerent and difficult to manage. Eye examination at this time showed a bilateral internal squint, fundus examination was unsatisfactory as there was a slight clouding of the vitreous. Patient remained in the hospital about two weeks, his mentality cleared up and paralysis of internal rectus left eye entirely gone, right eye no improvement. He was not seen again until January 17, 1918. He came in with keratitis in right eye, with extensive area of ulceration over the external half of cornea, complete loss of sensation over the temporal half of cornea and markedly diminished sensation over nasal half. Tactile sensation was entirely gone over large area of skin in the orbital region on right side, left side normal.

May 28, 1918. Right eye shows slight congestion of scleral veins movement improved but will not rotate into the temporal field, still complete absence of sensation in external half of cornea and over this, there is a thin scar, with slight improvement in tactual sensation over periorbital region was noted.

Patient was not seen again until August 18, 1919, twenty-two months after date of injury when he presented himself with right exophthalmos. He was annoyed with noises in the head which had begun a few days before. Physical examination showed pul-

sating exophthalmos, the eye protruding down and out, a distinct thrill could be felt at the inner upper angle of the orbit, and a bruit was audible over orbital region. There was some oedema of conjunctiva, scleral and orbital veins dilated, pupil slightly dilated but reacts, fundus shows marked dilatation of vessels, inferior retinal artery obliterated and in its place a white line of connective tissue. By compression on the common carotid symptoms became much less pronounced. Vision with correction, R. 20/30, L. 20/20.

August 20, 1919, patient was seen again and examination revealed a marked increase in all symptoms.

On September 5, 1919, at Methodist Hospital Dr. Werts and I made a window resection in the temporal wall of the orbit, and found the superior ophthalmic vein pulsating and enlarged to the size of one's little finger. This was ligated as far back in the orbit as possible. Immediately following the operation the oedema and exophthalmos were much increased, keratitis developed over external portion of the cornea, with marked oedema of conjunctiva and venous congestion of left eye and orbit. Patient's recovery was uneventful and he left the hospital five weeks later with exophthalmos and pulsation gone, no subjective noises in the head, but with scleral veins much enlarged in both eyes. Fundus examination in right eye shows oedema about the disc, a few small hemorrhages near the macula and veins excessively dilated and tortuous with proliferation of fibrous tissue along the borders of the vessels. Left eye, both arteries and veins tortuous and dilated with a very few small hemorrhages. V. R., 20/100; V. L., 20/20.

January 5, 1920, oedema about disc entirely gone, a few radiating white spots near both macula and veins about globe still somewhat enlarged.

March 20, 1920, vision right slightly better than 20/100, left normal, otherwise no change.

April 24, 1920, I was called on telephone by patient's family physician, saying patient was much alarmed because of slight swelling of left eye. Patient was fearful lest the same condition might be developing in left eye. A few days later his physician reported the symptoms rapidly subsiding.

May 12, 1920, patient came to my office with small corneal ulcer, right eye otherwise, both eyes showed no change from last examination except right eye moves well into temporal field and internal squint almost entirely gone.

This case we have diagnosed as one of arterio-venous aneurysm of cavernous sinus and base our conclusions on the fact that we have persistent abducens paralysis, paralysis of the ophthalmic division of the fifth, together with the symptoms as above described, and no visual disturbance not accounted for by the keratitis showing the presence of pathology which could not well be accounted for other than by arterio-venous aneurysm of the cavernous sinus. We chose ligation of the ophthalmic vein in the orbit because of the fact that we found signs

of venous enlargement at the inner angle of the orbit and also because we considered the operation to be much less hazardous than that of tying the carotid.

In conclusion I wish to briefly review results of sixteen cases of traumatic pulsating exophthalmos reported during the last five years. Of these thirteen were treated by ligation of common carotid with following results, five were completely cured, two markedly improved, three partly improved, two no improvement and one death. The visual results in affected eye were as follows: three became blind, in six vision was not stated, three with normal vision. Two cases were treated by compression of common carotid, one with complete cure and normal vision, the other with marked improvement, vision not stated. And our own case treated by orbital operation with cure of pulsation and exophthalmos and vision diminished from 20/30 to slightly better than 20/100. this was due to corneal opacity.

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Discussion

Dr. Ralph H. Parker, Des Moines—Through the courtesy of Dr. Dean many of the members of this Society were privileged to see two cases of pulsating exophthalmia demonstrated at the University Clinic five years ago. The cases were presented by Dr. De Schweinitz who was a guest of this section of the Society that year. Prior to this time Dr. De Schweinitz had made an exhaustive analysis of sixty-nine cases of pulsating exophthalmia. His report of the sixty-nine collective cases furnishes a valuable fund of information on this subject. When we recall that we are talking about a disease of which less than four hundred cases have been reported, we know we are dealing with a condition which is not often found in ophthalmological practice. Dr. May spoke of the paralysis of the motor muscles of the eye which accompany this disease. I have a sketch here taken from Fuch's text-book on ophthalmology which may help to fix in mind the reason for the paralysis of the external ocular muscles in cases of rupture of the carotid artery into the cavernous sinus. Most cases of pulsating exophthalmia are due to the establishment of a communication of the arterial and venous system within the cranial cavity directly behind the orbit.

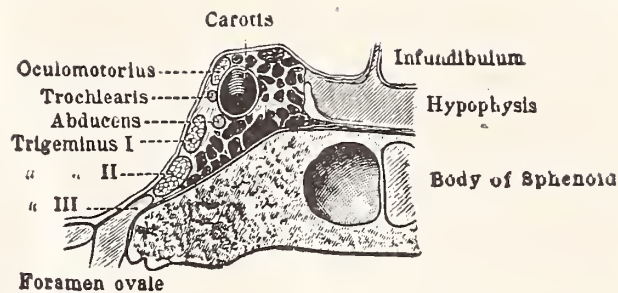


Figure 319—Frontal section through the sinus cavernosus. (After Merkel.)

This sketch represents a vertical cross section of the skull in the region of the sphenoid bone. Below and in the center the body of the sphenoid bone is shown. On its outer sloping sides and external to the hypophysis is the sheath of the cavernous sinus containing the sinus, the carotid artery and in its upper and outer wall the motor nerves of the eye, the pathetic, abducens, motoroculi, and also the upper division of the tri-facial. It seems very probable that a rupture of the carotid artery into the venous channel surrounding it would convert it into a large pulsating tumor with walls of insufficient strength to withstand the arterial pressure, the result would be an enormous amount of pressure upon the nerves lying within this sheath, causing a loss of function from pressure and later atrophy. The paralysis of the abducens and the upper branch of the fifth nerve was the determining factor with Dr. May in this case in making a diagnosis of arterio-venous aneurism of the cavernous sinus. It seems to me in this case of Dr. May's that we might anticipate a return of the pulsating eye symptoms at some future time if the lesion is within the cranial cavity, tying off a dilated vein within the orbit will not prevent other orbital veins from becoming dilated and taking on pulsation later if this is a case of aneurism of the carotid artery. Dr. May was fortunate in curing this case by a resection of the pulsating orbital vein. Dr. Sattler reports fifty-nine out of one hundred and six cases of pulsating exophthalmia as due to trauma, Keen gives 70 per cent of cases of traumatic origin. In case of fracture of the base of the skull and a fissure passing under the vessels held in this common sheath it may be so injured that an anastomosis results. Communication may be immediate or come on slowly. In Dr. May's case twenty-two months elapsed from the time of injury until pulsating exophthalmia developed. Nealton reports a case of twenty-one years of age in which the point of an umbrella had been thrust through the right lower eyelid. Within two months exophthalmia with pulsation developed. Another patient twenty-two years of age was struck on the head with a butcher knife thrown at a distance of fifteen feet. The following day she had noises in the head, two weeks later she had pulsating exophthalmia and a distinct bruit. Murray in the Annals of Surgery of March, 1904, states that 29 per cent of cases of pulsating exophthalmia, are due to an existing endarteritis of the internal carotid artery. Can this not account for so many cases occurring in middle life

from injuries which do not seem sufficient to produce a fracture of the base of the skull with a rupture of a normal artery wall. A death rate of 10 per cent and a report of but 50 per cent cured or improved following ligation of the carotid artery may speak against the operation. Many of these cases have been observed for years with no impairment of their general health and little danger of death. Williamson reports a case that lived twenty-three years. Frost reports one in which this condition existed for twenty-one years, and Brown one of sixty-five years standing.

TORSION OF INTRAABDOMINAL MEMBRANOUS FOLDS*

J. F. STUDEBAKER, M.D., Fort Dodge,

Until recent years reports of torsion of folds of the peritoneum rarely appeared in medical literature. At present a collection of case reports includes over 100 of torsion of the great omentum and fifty-three of an appendix epiploica. In this article the writer will confine himself to the discussion of torsion of these particular intraabdominal membranous folds.

The omentum is one of the most important structures in the abdominal cavity. Anatomically it is a curtain or double fold of peritoneum hanging from the lower edge of the transverse colon. It is a continuation of the meso-colon which suspends the transverse colon from the greater curvature of the stomach. It has a prolongation to each of the organs, spleen and liver. Therefore, all these reflections are one continuous membrane from the diaphragm to the small intestines. This formation, no doubt, is a factor in disturbed functions of abdominal organs and in the production of pain when there is tugging on these folds by torsion of the omentum.

No satisfactory explanation has been offered for the causation of torsion of peritoneal folds. It has been suggested that a difference in the length of the arteries and veins, sudden change of the position of the abdominal viscera or their contents, excessive peristalsis, and adhesions, are responsible.

In most cases it was found that the distal end of the omentum was attached to some surface, as the colon. The rolling of the omentum may produce a condition varying from a simple passive congestion to gangrene. Two to ten complete twists may be present.

The symptoms present a picture of an atypical abdominal crisis. The patient may appear to be

in shock. The pains have a sudden onset often coming in the night. There is nausea in about one-half of the cases and vomiting in one-third. There may be slight rise in temperature and pulse rate. Tumor is sometimes perceptible. Leucocytosis is present but not so high as in appendicitis. In no small per cent of the cases there is right side muscular resistance and tenderness at McBurney's point.

Because of attachment of the end of the omentum to the colon in some patients, symptoms of obstruction of bowel are present.

Eitel reported a case of torsion producing a large abdominal tumor giving rise to ascites for which the patient had been repeatedly tapped. "The immediate cause in this case was traumatic: the patient had carried a heavy box, which was pressed upward and against the abdomen."

Keen classified torsion of the omentum under two types, acute and subacute. He says that the acute form is "characterized by all the symptoms and signs which accompany the strangulation of any abdominal structure, and, in addition, its juxtaposition to the intestinal tract may give rise to the symptoms and signs of paralytic ileus." The onset is usually ushered in with pain which is generally constant but may be spasmodic. In a few cases there is absolute obstruction of the bowel.

The subacute form may have a history of sudden pain and tenderness with all the primary symptoms and signs of torsion as given above, which subside in from a few hours to a day or two. These attacks may be recurrent with more or less persistent tenderness, finally culminating in the gangrenous form demanding intervention. Such attacks in the cases reported have been diagnosed recurrent appendicitis.

The diagnosis of torsion of the omentum has been difficult, for almost without exception it has been a failure. It has been diagnosed acute appendicitis, gall-stones, intestinal obstruction, suppurating ovarian cyst, suppurating hydatid, and pancreatic disease. In all cases of intraabdominal crises it is not to be considered a mere curiosity for its frequency is greater than formerly thought. The marked severity of symptoms without much rise in temperature and pulse rate, the presence of an early tumor mass, especially after reduction from a hernial sac, and wide area of tenderness, should suggest to one, thinking of the rarer conditions, the possibility of omental torsion.

The condition of twisting of the appendices epiploicae mentioned in the introduction of this paper has a group of symptoms simulating those

*Read at Austin Flint-Cedar Valley Medical Meeting, July 14, 1920, Clear Lake, Iowa.

just considered. These appendices consist of double folds or so-called "pouches of peritoneum" along the entire length of the large intestine except the rectum. They are least developed in the region of the vermiform appendix and best along the sigmoid and transverse colon.

Consequent to interference of blood supply by torsion or pressure, pathological changes occur. The circulation may be suddenly and completely, or gradually interrupted. If interference is great enough the appendices epiploica may fall off, after necrosis of the pedicle takes place, and become a free body in the peritoneal cavity.

The causes offered are the same as for torsion of the omentum.

At least fifty-three cases under the head of "torsion and inflammation of appendices epiploicae" have been found in the cadaver and at time of operation. The symptoms pointed to acute conditions in the abdomen and were diagnosed acute appendicitis, gall-stones, ectopic gestation, ovarian disease, diverticulitis, tumor of the sigmoid and intestinal obstruction. It is noted by Hunt that pain does not always appear over the seat of the lesion for the location of torsion of the appendices epiploicae is the sigmoid in twenty-eight out of forty cases. The pain in many instances is in the right lower quadrant of the abdomen with the tumor mass usually in the region of the sigmoid.

Hunt states that Briggs observed that torsion of appendices epiploicae generally occurs in persons more or less obese during middle life or later. In twenty-four cases the youngest was twenty years of age and the oldest seventy-two. Sixty-eight per cent occurs in males.

Report of Author's Case of Torsion of the Omentum

Robust man of thirty-six, farmer, entered the hospital on September 4, 1919, complaining of pain and tenderness in the right side of the abdomen. He stated that he had "cramps" in the upper abdomen for years.

The history was negative except that six years ago while he was drawing a wagon he backed into another wagon and the tongue of the one he was pulling struck him in mid abdomen. He was in bed for two days and since then cramps were more marked than before the accident.

The attacks of pain in the upper abdomen usually passed off in a day. Sometimes it was necessary for the patient to be in bed. The appetite was poor for two or three days. Generally the attack came on at night during sleep. No urinary symptoms were present.

During the last two months pains radiating downward, frequently appeared in the upper abdomen. They were better after a bowel movement. The pa-

tient kept on with his work and could eat well unless the pain appeared at meal time. Two days before entering the hospital a more persistent attack of pain first in the upper abdomen, and later in the lower right quadrant occurred in the middle of the afternoon. The patient continued heavy farm work and ate a good supper. The following day a small breakfast and later a limited dinner were taken. He was in bed the latter part of this day. The next morning he called the local physician who advised immediate removal to the hospital. On admission the patient stated that he was unable to eat since noon the day before. No vomiting. Good bowel movement daily until day of entrance. Pain was becoming rapidly worse and soreness in right side more pronounced.

Examination—The patient appeared very ill. Beads of sweat stood on forehead. Pulse however had good quality at rate of 88. Temperature 100. Respiration 20. Patient lay on back. Abdomen had full even contour. No visible peristaltic waves. There were increased resistance of right rectus, small area of boil-like tenderness over McBurney's point with slight change of note and shading off of this small area of slight dullness to a ring of tympany as if a collar of omentum were about the appendix. W. B. C. 19,150. Diagnosis, acute appendicitis.

On opening the abdomen the surgeon found a definite sponge-like mass resting directly over the head of the cecum, easily released from adhesions. This was found to be the distal end of the omentum which was gangrenous. The torsion consisted of six half turns forming a firm pedicle. The appendix was free from inflammation.

Case Reports of Torsion of Appendices Epiploicae

Pochhammer Case—Hunt has made a collection of cases reported in the literature. He says that Pochhammer in 1910 reported a case in a male thirty-four years of age who for the past eighteen years had repeated attacks of pain in the right lower abdomen diagnosed as acute appendicitis. A similar attack without nausea and vomiting occurred before entrance into the hospital. At time of operation a hard fatty bluish-black tumor attached by twisted pedicle was found to be an appendix epiploica.

Kimpton Case—In 1915 he reported a case in an obese male forty-two years old. The patient had had two attacks of acute pain in the right lower abdomen with nausea. There was tenderness and rigidity in the location of the pain. The pulse and temperature were normal. A diagnosis of acute appendicitis was made. A black twisted appendix epiploica presented in region of the vermiform appendix, which itself was normal.

Harrigan Case—Report in 1917. Male, twenty-nine years of age, two days before had sudden severe pain in right lower quadrant of abdomen. No physical findings except slight tenderness and rigidity in McBurney's area. Diagnosis: acute appendicitis. Exploration of abdomen revealed a normal appendix and a dark appendix epiploica fixed to the sigmoid by its twisted pedicle.

Mayo Clinic Case (Hunt)—Male, fifty-eight years of age. History of severe constipation for years. Two weeks previously pain noticed on defecation. Much mucus in stool but no blood. Pain continued and was better after enemas. No other subjective symptoms. Since mass was felt per rectum a diagnosis was made of tumor of sigmoid. At operation an appendix epiploica with twisted pedicle was found with its attachment about five inches above the rectum.

THE PRINCIPLES OF BASAL METABOLISM DETERMINATIONS

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AND

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Wherever we find life, we find metabolism. This fact is known to us all and yet, interested in life as physicians are, we have known little of the processes of life which recent study of metabolism is opening up to us. Metabolism in the animal body is studied by calorimetry, which has taught us that in the healthy body the metabolism is a resultant of a number of factors which are nicely balanced to suit the energy requirements of the animal. When the body rests the energy requirement is low and the output correspondingly low. Activity, digestion and absorption of food, emotion and other factors increase the demand and output of energy.

Basal metabolism is the rate of energy output measured when the body is at complete rest and the digestive processes at a minimum. For purposes of comparison of individuals of the same species it is necessary to compare these basal rates. Experiments in the past have shown that they compare very favorably whether the individual be fat or lean, thick or tall, if the surface area is considered as a factor in the determination.

There is a large literature on basal metabolism: its variations and significance. We have nothing new to offer in this paper, but have tried to give a discussion of the subject which would sum up in one article what the authors had to search a number of papers to find.

Calorimetry is used in one of two methods: Direct calorimetry by means of elaborate apparatus measures the energy output of the individual under standard conditions. Indirect calorimetry measures how much energy the individual should put out by measuring the oxygen consumed or the carbon dioxide excreted and assigning a caloric value to each liter of oxygen or carbon dioxide.

Direct calorimetry is impractical from a clinical standpoint, because of the time necessary in its determination, the number of trained observers needed and the elaborateness of the apparatus required. Indirect calorimetry was the oldest form used, having first been employed by Pettenkofer in 1862. He estimated energy production by carbon dioxide output. It was more than fifty years after the work of Pettenkofer before the determination of basal metabolism became practical through the painstaking work of Lusk and his co-workers. In the meantime the direct calorimeter was constructed by Rubner, and means of determining oxygen consumption were perfected. The simultaneous determinations by direct and indirect calorimetry showed the correctness of the laws of conservation of energy, in the animal body, and established the dependability of the results obtained by indirect calorimetry. On this basis the present day determinations of basal metabolism are carried out indirectly by perfected apparatus of a couple makes.

It is to the development of indirect calorimetry and to the perfecting of apparatus for its application, that clinical medicine owes its thanks for the present interest in basal metabolic studies. We shall confine our remarks and descriptions of the clinical determination of basal metabolism to this method.

Each liter of oxygen absorbed has a caloric value varying with the respiratory quotient of the individual at the time the oxygen is used. The theoretical respiratory quotient of an individual oxidizing fat is approximately 0.71. When oxidizing dextrose the quotient is 1.00. Under actual conditions the respiratory quotient is between these numbers and is the result of oxidizing a mixture of protein, fat and carbohydrates. The average is taken to be 0.83. The value of the oxygen consumed under the various possible respiratory quotients is given in the following table taken from Zuntz¹.

Respiratory Quotient	Calories for 1 Liter of Oxygen
0.70.....	4.68
0.71.....	4.69
0.72.....	4.70
0.73.....	4.71
0.74.....	4.73
0.75.....	4.74
0.76.....	4.75
0.77.....	4.76
0.78.....	4.78
0.79.....	4.79
0.80.....	4.80
0.81.....	4.81
0.82.....	4.82

Respiratory Quotient	Calories for 1 Liter of Oxygen
0.83.....	4.83
0.84.....	4.85
0.85.....	4.86
0.86.....	4.87
0.87.....	4.89
0.88.....	4.90
0.89.....	4.91
0.90.....	4.92
0.91.....	4.94
0.92.....	4.95
0.93.....	4.96
0.94.....	4.97
0.95.....	4.98
0.96.....	5.00

The energy requirement of an individual can also be figured from the carbon dioxide output but as the variation of caloric value is three times as much for carbon dioxide as for oxygen with the various respiratory quotients, it is better to compute from the oxygen consumed and thus divide the possibility of error. It is shown that this is the best method to figure from as the error in results is less with all assumed error of readings when using oxygen readings than when the energy production is reached from the carbon dioxide readings².

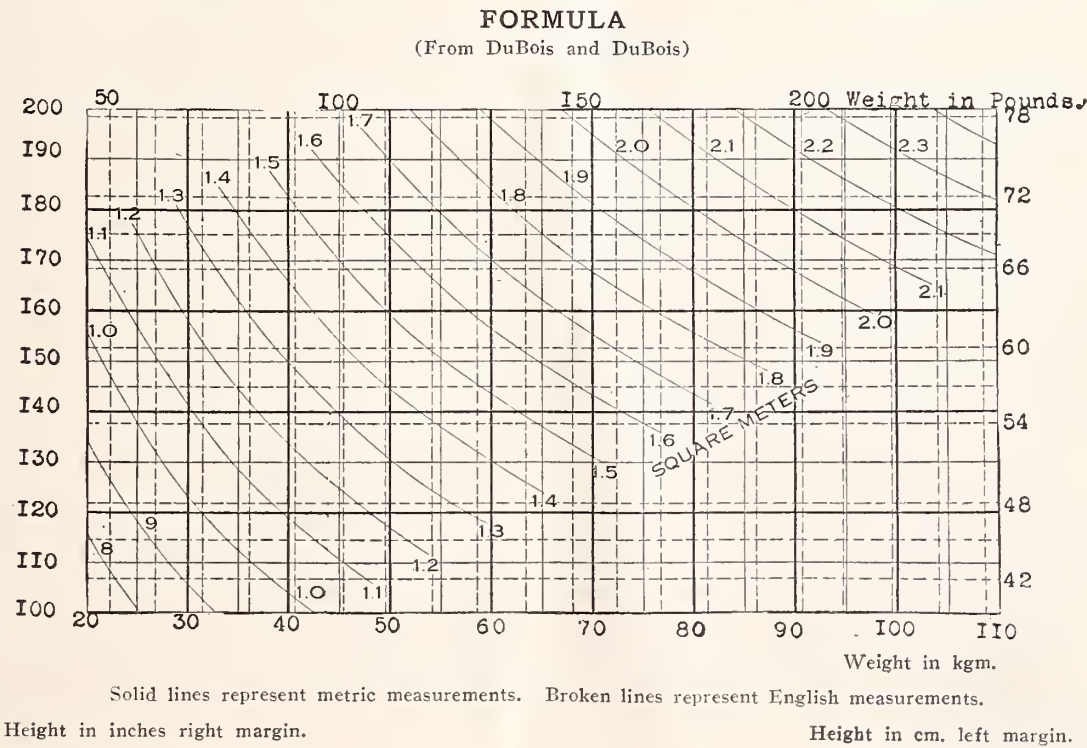
In some tests the estimation of protein, and non-protein heat production is done. This is not necessary in the usual clinical case as the variations in results are slight. In practice the respira-

tory quotient if not determined may be taken as 0.83 which stands near the average.

Rubner first suggested the fact that the heat produced by an individual is proportional to the surface area of the body. This fact is established by present day studies in metabolism. Determination of the surface area has been a difficult matter because of the tediousness of measuring accurately, enough bodies of different types to establish the correctness of any equation given.

There have been many equations but few measurements. One of the most used was the formula of Meeh basing the surface area on the one factor of weight. This gave figures which were incorrect especially on patients that were stout. DuBois³ used for some time a formula which required the taking of nineteen and sometimes twenty measurements of the body. It is called the linear formula and gave accurate results but is rather painstaking. On one case of arthritis in early life with later marked deformity of limb development, I found that the linear formula gave more accurate results in computing the body surface than did the height-weight formula. The most convenient equation is the following from DuBois⁴. Surface area in square cm. = wt. ^{0.425} × ht. ^{0.725} × (C = 71.84) where the weight is expressed in kilograms and the height in centimeters. The results have been plotted in the form of a curve with the ordinates representing the height and the abscissae the weight.

Chart Showing the Surface Area of the Body—Height—Weight



The average metabolism per square meter of body surface per hour is in normal men 39.7 calories, and in normal women 36.9 calories.

This supposes the age of the patient is between twenty and forty years. Below this age the number of calories increases and above it the calories decrease. For patients outside the limits of twenty to forty years the following table⁵ will show the normal energy production.

Calories Per Square Meter of Body Surface Per Hour		
Age, Years	Males	Females
14-16.....	46.0.....	43.0.....
16-18.....	43.0.....	40.0.....
18-20.....	41.0.....	38.0.....
20-30.....	39.5.....	37.0.....
30-40.....	39.5.....	36.5.....
40-50.....	38.5.....	36.0.....
50-60.....	37.5.....	35.0.....
60-70.....	36.5.....	34.0.....
70-80.....	35.5.....	33.0.....

Variations from these standards of plus or minus 10 per cent should not be considered abnormal with the usual clinical determination.

For the practical determination of the metabolic rate, certain standard conditions must be observed that the results may be comparable. The patient is instructed to come to the office in the morning, not having eaten for a period of fourteen to eighteen hours. They are weighed and measured and instructed to lie down for twenty minutes to one hour before the beginning of the test. Prolonging the resting period over twenty minutes makes no material difference in the metabolic rate⁶.

The patients are instructed to lie on the back during the resting period and the test, and to limit muscular activity to movement of the arms to the face. Any other muscular movement is observed and recorded. Before bringing the respiration apparatus to the side of the couch, the test is explained to the patient in as commonplace manner as possible. The object of this is to take away all fear, and satisfy any interest in just what the "new" test may be. In our own case we have found that such preliminary talk with the patient has helped to make the duplicate readings compare favorably more often than they formerly did.

We have used the Benedict closed circuit type of respiration apparatus and soon learned that attention to starting and stopping the test in the same phase of respiration was necessary to get best results. The readings from the apparatus are then corrected for temperature to 0° centigrade, by multiplying by the proper factor as taken from table below.

Temperature in °C	Factor for Multiplying	Log
40-39	0.87.....	9.939519-10
38-37-36	0.88.....	9.944483-10
35-34-33	0.89.....	9.949390-10
32-31-30	0.90.....	9.954243-10
28-27-26	0.91.....	9.959041-10
25-24-23-22	0.92.....	9.963788-10
21-20-19	0.93.....	9.968483-10
18-17-16	0.94.....	9.973128-10
16-15-14-13	0.95.....	9.977724-10
12-11-10	0.96.....	9.982271-10
9-8-7	0.97.....	9.986772-10
6-5-4	0.98.....	9.991226-10
3-2-1	0.99.....	9.965635-10

The barometric reading is taken and the volume corrected to standard sea level pressure of 760 m.m.. It is convenient to use logarithms but not necessary. In the use of logarithms for the computations it has been found convenient to compile a list of the logarithms of the most commonly used figures which still more facilitates the computations. The basal energy requirement of the individual as arrived at is compared with the normal standards as given on a previous page and the results expressed in plus or minus percentages as found.

The clinical determination of basal metabolism is a comparatively new test. Our ideas of its value today will probably be revised to coordinate future findings. To those who see in it only a plaything or an advertising medium we believe the future will impress new evidences of its value. If we are ready to interpret it today as an absolute test of any condition we are doomed to disappointment. We expect the future to bear out our opinion that it is one more test of accurately studying disease conditions and show its importance as such, similar to the present use of the sphygmomanometer, clinical thermometer and hemocytometers.

To date the greatest value of metabolism determinations has been found to lie in its use in endocrine gland disturbances, more particularly those of the thyroid gland. We find the greatest deviations from normal heat production in hyper and hypo thyroid conditions: Here it ranges from plus one hundred per cent in hyperthyroids to minus forty per cent in hypothyroid cases. In our study of cases they very readily fall into the three classes as suggested⁷. Patients with such diseases as the neuroses and incipient tuberculosis simulate, in many clinical symptoms, hyperthyroidism, but the basal metabolic rate is normal. Of those conditions with increased rate, exophthalmic goitre and adenoma of the thyroid gland are the most often found. Acromegaly in its active

stages also gives increased rates. In such conditions as pernicious anemia, leukemia and diabetes the basal rate is increased but the significance of the increase is not apparent.

In myxedema the rate is decreased as it is also in some cases of hypopituitarism. Some cases of lowered rate but without clinical signs of myxedema have been found to give clinical improvement and increased metabolic rate when treated with small doses of thyroid extract or potassium iodide.

Administration of adrenalin will increase the metabolic rate. We have seen no record of metabolism tests in a case of Addison's disease. In experimental work on dogs castration caused a lowering of basal metabolism. The full value of these findings is possibly not realized today. Heat production in the animal body is presided over mainly by the thyroid but quite probably there is an inter-relation between it and other endocrine organs which is not yet fully understood. Whatever conclusions we may in the future reach, we believe, they will establish the importance of metabolism tests in all cases of thyroid disease.

Study of metabolism is of aid in selecting our exophthalmic goitre cases for operation⁸⁻⁹, and in controlling the treatment of hyperthyroidism with the x-ray. In the light of our present day knowledge of basal metabolism, it promises to be a valuable clinical aid in the future if, following the advice of Boothby⁷ it is not discredited by careless technique and non-dependable readings. The determination of basal metabolism properly requires time and close application to the test which the busy practitioner cannot give. We believe it necessary to carefully correct the readings for temperature and barometric pressure. The range of temperature with which we must work here introducing a possible error of 6 per cent if not corrected for. The barometric range at Davenport gives an added error of 5 per cent in the final readings. With these corrections made, we have found the Basal Metabolic Rate the most dependable of any single test of thyroid condition.

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ENCEPHALITIS LETHARGICA: REPORT OF A CASE

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This case is reported, not that it offers anything new in diagnosis or treatment. There is, however, so little in the literature concerning encephalitis lethargica, that it is desirable to have every case reported in order to keep the various features of the condition before the minds of the profession; and to supply sufficient data for those who are investigating the disease.

I shall not go into the history, etiology, or differential diagnosis of "sleeping sickness." Brief mention will be made of some features of the case, which, although of moderate severity, presents a rather complete group of symptoms, and consequently renders diagnosis proportionately easy.

History—The patient is a German-American farmer, thirty-four years old, of good habits, and with nothing of importance in his personal history until last December. In the last week of December, 1920, he was in bed three days with "grip." During this illness the temperature reached 103°; there was considerable weakness, aching of the back and limbs, slight cough, and slight soreness of the throat. The patient's wife and children had similar symptoms at this time.

Following this, he resumed his work, but had not his usual energy, was constipated, had cold feet, and at times a heavy sensation in the abdomen.

About January 8, there was sufficient blurring of vision to prevent reading, and the patient complained of "seeing double."

A few days later there developed a steady pain in the anal region severe enough to prevent sleep, but not influenced by defecation. Constipation had become more obstinate at this time.

On January 15, a myoclonus involving the left peroneus brevis appeared, accompanied by restlessness, insomnia, and profuse perspiration.

On January 17, there was retention of urine for fifteen hours, relieved by heat and enemas, and not recurring.

Two days later these symptoms had subsided, and drowsiness began which persisted for one

week. This was not a profound stupor, but an apathy, so that the patient dozed, except when disturbed, and was at times irrational. He could be aroused without difficulty and answered questions with a fair degree of accuracy, but volunteered no remarks and had absolutely no complaints. The stupor gradually disappeared and recovery was uneventful, except for dull pains in the left calf and ankle. The appetite was surprisingly good throughout the entire illness. There was no vomiting.

Physical examination on January 17 showed a well developed, well nourished man, with normal heart, lungs, urine, and blood pressure. Temperature was 100°, and pulse 80°. Perspiration was profuse. The right pupil was larger than the left, and both reacted sluggishly. The tongue was tremulous and slightly coated. Herpes labialis were present. There was increased resistance of the abdominal muscles, but the shock-like contractions mentioned by McAlpine were not observed.

The knee jerks were not increased, ankle-clonus and Babinskis' sign were absent, as were also headache, stiff neck and Kernig's sign. A slight tremor of the hands was present. The most striking feature was the myoclonus of the left peroneus brevis. It consisted of a regular, quick contraction, decidedly shock-like, strong enough to extend the foot, and so definite that the muscle and tendon were outlined with each recurring contraction.

Subsequent examinations revealed nothing worthy of mention, except variability in the knee-jerks, which were never accentuated, and slight atrophy of both legs.

Treatment consisted in rest, quiet, and restricted diet, together with hexamethyline, sodium bicarbonate, and phenolphthaline with calomel. No lumbar puncture was made.

DIFFUSE SUBEPITHELIAL INFILTRATION OF THE UPPER AIR PASSAGES

H. E. THOMPSON, M.D., Dubuque

Less than ten cases of amyloid tumor formation of the upper air passages have been reported to date in the American literature and only a total of forty-six here and in Europe according to New of the Mayo Clinic, in an article in the June, 1919 Laryngoscope. His classification is as follows. It occurs as a part of a general amyloidosis in which other organs are involved or as a local condition. Under the latter we have: (1) diffuse subepithelial infiltration; (2) tumor forming lo-

cal amyloidosis; (3) amyloid degeneration of a preexisting tumor.

The patient in this case is a married woman, thirty years of age. She was born in Wisconsin, her parents having come to this country from the southern part of Germany.

She was unable to speak above a whisper except by great exertion when she could utter a high pitched cry. At the age of two she began to have this trouble and it had gradually progressed until at the age of seven her voice had become practically the same as at present. She had no difficulty in breathing. Her general health was good. There is no history of her parents having had any special disease of the upper air passages. One sister thirty-three years of age also gives a negative history. She has a boy nine years of age who is perfectly healthy. She had measles, diphtheria and chicken-pox as a child.

The parts affected were the anterior part of the nasal septum on both sides, the hypopharynx, the tonsils, anterior and posterior pillars, soft palate, epiglottis, larynx and a small part of the upper part of the trachea. Especially involving the tonsils, pillars, soft palate, epiglottis and the cords there was a diffuse thickening and is best likened to the appearance of pebble leather. The parts were of a grayish white color due to the vast amount of fibrous tissue. There was some anesthesia of the parts. The edges of the cords were very uneven and much thickened and the interarytenoid space was filled with the same infiltration. The conjunctiva at the edges of both lower lids was slightly involved as well as the punctum on one side. A careful general examination was done but failed to reveal any associated pathology. The urine, Wassermann and blood counts were normal. The vagina showed no involvement of the mucous membrane. However, she had a general reaction to old tuberculin and for a time was treated by means of tuberculin by her physician. The patient thought her voice was improved but there was no change in the appearance of the diseased tissues.

Sections were taken from the pillars, tonsils and the soft palate and sent to various pathologists and the diagnoses were rhinoscleroma and syphilis. The sections show a subepithelial infiltration of an amyloid substance which is seen in layers between which much connective tissue is packed. The blood-vessels and the tissue in the immediate vicinity of the vessels are especially involved. A section was sent to New at a later date after his article had appeared and he classified it as one of subepithelial amyloid infiltration. An attempt was made to isolate the

organism of rhinoscleroma but failed. Pieces of the tissue were also ground in a mortar and injected into the testicles and peritoneal cavity of rabbits. Later on cross sections of the testicles showed only destruction of the gland tissue with fibrous formation. The intraperitoneal injections produced no result.

The diagnosis of this case is I believe, diffuse subepithelial amyloid infiltration of the upper air passages and conjunctiva without any associated pathology. The case is of unusual interest in that the patient has been affected practically all her life.

The treatment has been to remove the rough projections along the edges of the cords by the direct method under local anesthetic. Following this there was improvement in her voice, so much so, that she has been able to use the telephone. However, although the edges of the cords are much smoother, the interarytenoid infiltration prevents the cords approximating sufficiently to give her a good voice.

LATE DEVELOPMENT OF THE FUSION SENSE—CASE REPORT

GORDON F. HARKNESS, M.D., Davenport

The development of the fusion sense in cases of squint by stereoscopic exercises is familiar to all and the success attained by such means has met with varying success and personally the disappointments have been greater than the successes.

The following case is of interest in that it controverts the statement made by Worth that where the fusion sense is not present, one cannot expect to develop it after the age of six. This case however does not apply to the great majority of squint cases which are cases of internal squint while this patient suffered from an alternating external squint.

Those who were in the service and conducted examinations for its various branches will recall that in the examination of applicants for the aviation section of the signal corps the first twelve sub-divisions had to do with the examination of the eyes.

Last summer while conducting such examinations at the base hospital, Camp Jackson, South Carolina, in the department of ophthalmology. Major Wallace Ralston, chief of service, a young man presented himself as an applicant for the aviation section.

He denied any previous eye trouble, had 20/20

vision with either eye, pupillary reactions normal, successfully passed the stereoscopic visual test and with normal tension visual fields and color perception. His muscle tests showed an orthophoria. The ophthalmoscopic examination was negative.

No nystagmus was elicited but while alternately covering and uncovering each eye which I did as a matter of routine I was able to detect a slight movement inward and of the same degree in either eye when it was uncovered. With both eyes uncovered there was no deviation either for distant or near vision.

The applicant was sent back for a second examination and watched carefully. The result was the same as the first examination. I was suspicious that the applicant had not been entirely truthful and finally told him that I did not believe his story as to no previous eye trouble.

The applicant was a college graduate and intellectually far above the average. He then frankly gave the following history. He had suffered from an alternating divergent squint and due to parental opposition the recommendation for operative interference made by some one early in life had been refused. The condition continued until when at the age of seventeen he suffered keenly from the cosmetic defect and without any professional advice conceived the idea that he might be able to so exercise his internal recti muscles and overcome the difficulty. He stated that he systematically began simple convergence exercises and that in about one month's time he was able to overcome his diplopia when his eyes approached parallel axes, and that this was the hardest part of his task. He continued until he was able to maintain single binocular vision for both distant and near objects with comfort.

At the time of the examination he experienced no sense of eye strain. He could voluntarily produce a divergent squint of either eye both while looking in the distance or at close range.

The passing of the stereoscopic test I believe proved the development of the fusion sense at the age of seventeen.

Taking Worth's classification of divergent squint, the myopic and the neuropathic this case comes within the latter class. Worth states that the results of treatment in this class is unsatisfactory, and that the attempts at fusion training nearly always fail and that the advancement of one or both interni is about one's only recourse.

I simply report this case as one out of the ordinary and that in this particular type of cases it may be an incentive to encourage a patient to per-

sist for some time with muscle exercises before resorting to operative measures.

Discussion

W. W. Pearson, Des Moines—This is a very interesting subject, and the case that the doctor has presented is unique. I have devoted a good deal of time and attention to the consideration of this particular type of condition—the development of the fusion center. I have listened to our friend Savage and to many and different men discuss this condition. I was impressed with Worth's results, and wondered if his results were not secured largely in the families of the wealthy, who are supplied with governesses or nurses who at certain intervals of the day devote the necessary time to the eye exercise. It is a different proposition where you have little ones in a family where the mother is looking after household duties to ask her to practice for an hour a day for an indefinite period with the little one. There is no question but that much could be accomplished if this were possible, but it really is not practicable among the great majority of our patients. The temperament and type of patient make a great difference. How many young men given the suggestion would follow out the exercises which this individual, because of his own inherent desire to secure the result, carried out? There are but few who will do it. It is not practical either, to anticipate the results in every case. It is a big field, and every time we have a meeting of this section in the American Medical Association four or five men always speak on this topic, and we never get the same answer, but the same discussion goes forth year after year.

Dr. Harkness—No attempt was made to present a paper on the theory and development of the fusion center. This case was extremely unique, and the fact that this man was able to develop the fusion sense at the age of seventeen seemed to me worth recording. I think Dr. Pearson is correct in saying that the success of Worth's cases has been found in just the class he speaks of, where there is somebody who will spend the time with these children—a thing we cannot do in our private practice, and you cannot get the average family to do it. This simply illustrates what can be done in one individual case. Of course that does not justify one in stating any rules as to what can be done in all cases, and yet it stands forth as an incentive to some other individual, perhaps, to try to do something.

509 New Putnam Bldg.

NEW YORK LEGISLATURE

A bill has been introduced in the state legislature of New York to provide adequate and scientific medical and surgical treatment for residents and industrial workers in rural districts of the state. The measure seeks to authorize a county or city to create one or more health centers and to provide state aid. The bill carries an appropriation of \$25,000.

INDUSTRIAL RESEARCH LABORATORIES

Research facilities and the development activities of American industries are to be described in the forthcoming revision of Bulletin of the National Research Council Number 2, "Research laboratories in industrial establishments of the United States of America." Only 300 such laboratories were listed in the first edition but it is hoped that several hundred new names will appear in the revision and that a more nearly complete reference list will thus become available. The general demand for the first edition of the Bulletin shows the wide interest in this subject, and the importance of having every laboratory which devotes even a portion of its time to research properly listed.

The Council requests information from directors of research who have not already supplied it. The following data are wanted: Name and address of firm and address of laboratory; name of director of research; number on laboratory staff (classified as chemists, engineers, bacteriologists, etc.); approximate proportion of time spent on research; chief lines of research; unusual features of equipment; research laboratory space; date of organization of research laboratory and annual expenditure for research. Confidential information is not desired.

It is also requested that librarians in the service of the industries please bring this notice to the attention of the proper officials in their organizations.

This material should be furnished as promptly as possible to the Research Information Service, National Research Council, 1701 Massachusetts Avenue, Washington, D. C.

ANNOUNCEMENT

The proposed Public Health Institute which the Public Health Service contemplated holding in Washington, D. C., during the fall of 1921, has been indefinitely postponed. This action has been decided upon after several conferences between officers of the service and officers of the American Public Health Association.

The fiftieth annual meeting of the American Public Health Association is to be held in New York City, November 14-18, 1921. Several other activities are planned by the association in connection with their semi-centennial meeting in November, 1921, and it was at the request of the American Public Health Association that the Service Institute for next fall was abandoned.

The service hopes that it will be possible to arrange to hold a similar institute in Washington during the spring or fall of 1922.

By direction of the Surgeon General.

Respectfully,

C. C. PEERCE,
Assistant Surgeon General.

The Journal of the Iowa State Medical Society

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In Iowa, we suffer the humiliation of legislation that threatens the standards of medical education. It is not the competition of the osteopath or chiropractor we fear, but it is the danger to our standards that we fear. By long years of struggle, we have brought the standards of medical education to a high degree of perfection. Our University Medical School is now the standard for all the United States. The development has been slow and has been accomplished by material sacrifice of the profession of the state. The foremost authorities in medical education acknowledge the fact that we stand first, and it has been with a feeling of pride that in attending the great medical organizations to hear it said by educators like Frank Billings, John Finney and Victor C. Vaughn that because of the cooperation with the medical department of the Iowa State University, and an enlightened and generous profession Iowa has reached the first place. With what humiliation it is that we become aware of the fact, that the people most to be benefited, through their representations in the legislature, have attempted to turn back our accomplishments in the interests of a few commercial minded individuals who are only interested in the money that may be made.

In the beginning we expected disappointments and failure, but after we had reached the high place and had given Iowa the first rank, that the people should turn against us and made the state a reproach in the eyes of the medical world. Why should our legislature deliberately place us

among the more backward commonwealths?

What effect will this have on the profession? Will the more progressive doctors find more congenial fields elsewhere, or shall we come closer together, and insist there shall be only one standard of fundamental preparation for the practice of medicine and allow those who desire to do so practice osteopathy, chiropractic or any other system? We trust this backward movement will not discourage the medical profession, and that we shall gather renewed courage, and comfort ourselves with the reflection that the people of the state are not fairly represented by our last legislature, and that it was only an incident in a strange unaccountable and insane election that ever so often apparently must sweep over the country and leave us for a time in an almost hopeless state of confusion.

We are beginning to realize that commercial and industrial corporations in the interests of economy and for general welfare purposes, are seeking to establish medical service for their employes. To make this possible, certain contractual relations must be established either with the corporation, if it remains a private arrangement, or under a fixed fee, if a state service. In either event the individual physician is placed at a disadvantage because he is only an individual and often inexperienced in business affairs. Sometimes the physician is wholly ignored, or advised that only a much smaller bill will be paid. Sometimes the physician has an exaggerated idea of the value of his services and insists on a larger compensation than is fair considering that his services are *quasi* public in character. Cases of this nature are liable to arise in accident and health insurance, and under our workmen's compensation laws. It has occurred to us that the welfare committee recently appointed, could serve as a medium through which such misunderstandings could be adjusted, functioning something like the Medico-legal Committee. The physician who feels he has a grievance could submit the facts and if he is unfairly treated, he would be more likely to get his just dues if it was known that 2500 physicians are behind this committee. If on the other hand, he has mistaken the value of his services, or has placed too high a money value on them, he could be advised that litigation would be a mistake.

This would of course be only a voluntary arrangement, and apply only when the services related to the public, as fees, or bills for health and accident insurance, workmen's compensation, etc. The only weapon that the committee could use

would be publicity. It is understood that questions relating to state medicine, health centers, group practice, compulsory health insurance, abuse of medical charity by hospitals, and dispensaries, lodge practice, counter prescribing, nurse training, quack doctors and a variety of matters would come under the guardianship of this committee.

(We prefer the guardianship of this committee rather than of the state.) This does not mean that private practitioners will sacrifice any of their individual rights but simply seek the advice and support of an experienced group of medical men who are close students of medical matters, and understand the trend of affairs. These duties will not encroach on the domain of the councilors, whose duties are to maintain county medical organization and to perform emergency legislative functions in the interim of the meetings of the House of Delegates.

The English Medical Journals have their troubles with contributors as well as ourselves. We have some papers in our basket without the name of the author. There is not a hint as to who prepared the paper or whether it was read before some society. Sometimes we can guess who was the author, provided it was sent in an envelope with a return notice in the corner, but if forwarded in a perfectly blank envelope, we are completely lost. When a paper is read before a medical society, the fact should be plainly marked. It is sometimes said that conditions in England are quite different from conditions in this country, but not always. The British Medical Journal says: "To have a manuscript typewritten, and then send it for publication without revision is a crime comparable to operating with unwashed hands." The Medical Research Council finds it necessary to insert a warning in its notes upon the preparation of monographs and reports for publication recently published. "A comparable fault is failure to write proper names and technical terms legibly. It was said of Lord Brougham that he had three distinct handwritings—one that the majority of people could read, one that his clerk could read for a fee, and a third that had to be sent to the printer. Undoubtedly, an experienced compositor acquires an extraordinary skill in deciphering careless writing, but he ought not to be put to the test. If the author's manuscript has been typewritten and is uncorrected or if the correction is illegible, the skill and experience of the compositor is of no avail." Another point is the placing of the decimal point, it should not be placed at the beginning

of the number as it may be overlooked, the form 0.5 should be used, not .5.

It is a disappointment to an author to see his paper in print in which sentences appear that do not fully express his meaning. We have seen the reader of a paper stop to correct a paragraph with a pencil and then turn the paper in without revision. In spite of guessing and magnifying glass and the strongest light, we have been unable to make out what the change is. Probably the greatest fault with our papers is the spacing; so often the lines are so close together that one runs into the other, and we are obliged to rewrite a page or more to save the compositor confusing medical terms. Please double space your typewritten copy and leave an inch of margin blank.

STANDARDIZING HOSPITALS

The minimum of standardizing urged is but a modest requirement, and will bring no hardship to those who are willing and anxious to deal fairly with the public. We are quite sure that most hospitals are willing and anxious to do their part, but the staff, or perhaps it would be more proper to say, the physicians and surgeons doing work in these hospitals are unwilling to cooperate, and raise all kinds of objections. We know of some hospital staffs that have changed the reading of the declaration so as to make it read "We are opposed to the principle of dividing fees" when the exact language is; "the practice of the division of fees, under any guise whatever, be prohibited."

The hospitals above referred to know very well, that such an interpretation will never be accepted, and these institutions are placed in an embarrassing position. It is to be regretted that members of the medical profession should place themselves in this position in order to preserve the practice of the physician, the surgeon and the specialist, to collect the fee and divide it between them without the patients knowing how the division was made, that is, a secret division of the fee.

REPORT OF COMMITTEE ON HOSPITAL STANDARDS

American Railway Association—Medical and Surgical Section

New York, May 9, 1921.

To the Medical and Surgical Section:

The Committee on Hospital Standards held a meeting at Chicago on April 6, 1921.

In accordance with the committee's understanding of its functions it has prepared the following suggested outline of the basic requirements for railway hospital standards:

Railway Hospital Standards

1. That physicians and surgeons privileged to practice in the hospital be organized as a definite group or staff. Such organization has nothing to do with the question as to whether the hospital is "open" or "closed," nor need it affect the various existing types of staff organization. The word "staff" is here defined as the group of doctors who practice in the hospital inclusive of all groups such as the "regular staff," the visiting staff," and the "associate staff."

2. That membership upon the staff be restricted to physicians and surgeons who are (a) competent in their respective fields, and (b) worthy in character and in matters of professional ethics; that in this latter connection the practice of the division of fees, under any guise whatever, be prohibited.

3. That the staff initiate and, with the approval of the governing board of the hospital, adopt rules, regulations, and policies governing the professional work of the hospital; that these rules, regulations, and policies specifically provide:

(a) That staff meetings be held at least once each month. (In large hospitals the departments may choose to meet separately.)

(b) That the staff review and analyze at regular intervals, the clinical experience of the staff in the various departments of the hospital, such as medicine, surgery, and obstetrics; the clinical records of patients, free and pay, to be the basis for such review and analyses.

4. That accurate and complete case records be written for all patients and filed in the hospital, a complete case record being one, except in an emergency, which includes the personal history; the physical examination, with clinical, pathological, and x-ray findings when indicated; the working diagnosis; the treatment, medical and surgical; the medical progress; the condition on discharge with final diagnosis; and, in case of death, the autopsy findings when available.

5. That clinical laboratory facilities be available for the study, diagnoses, and treatment of patients, these facilities to include at least chemical, bacteriological, serological, histological, radiographic, and fluoroscopic service in charge of trained technicians.

The above suggested fundamentals for standardization are submitted and have been prepared after a review of recommendations of the American College of Surgeons on this subject.

Action Recommended

Adoption by the section as standard practice.

Respectfully submitted, Committee on Hospital Standards.—Dr. A. F. Jonas (Chairman), Chief Surgeon, Union Pacific Railroad; Dr. Craig Barrow, Chief Surgeon, Central of Georgia Railroad; Dr. D. S. Fairchild, Local Surgeon, Chicago & North Western Railway; Dr. Spencer M. Free, Company Surgeon, Pennsylvania System; Dr. J. P. Mitchell, Chief

Surgeon, Canadian National Lines; Dr. J. W. O'Connor, Chief Surgeon, Denver & Rio Grande Railroad; Dr. P. F. Vasterling, Chief Surgeon, Missouri Pacific Railway; Dr. J. B. Walker, Surgeon, Pennsylvania System.

LIABILITY OF A GROUP OR FIRM OF PHYSICIANS FOR NEGLIGENCE OF ROENTGENOLOGIST IN THEIR EMPLOY

The Supreme Court of Arkansas holds that roentgenology is a highly technical science and requires a high degree of training, and may not be a part of a physician's training; and that it may be necessary for a group of physicians to employ an x-ray technician, not necessarily a physician. If under such employment, the roentgenologist negligently burns a patient the said physicians are not liable. It is only necessary for them to show reasonable care in employing a roentgenologist who possesses reasonable knowledge and skill in the use of x-ray apparatus.

The opinion grew out of a case tried in Arkansas where a judgment was rendered in a lower court for \$25,000 against a firm of doctors for an x-ray injury due to the alleged negligence of a roentgenologist, not a physician, employed by them. The lower court held to the master and servant relation and that the master was liable for the negligent act of the servant. The Supreme Court reversed the lower court and dismissed the case. This case is an important one in that it holds that roentgenology is a distinct and technical profession and may not be a part of a physician's education or profession, and that when reasonable care is exercised in employing a competent roentgenologist responsibility ceases. The claim for negligence must rest with the x-ray operator.

A full report of this opinion may be found in the Journal A. M. A. for June 4, 1921, page 1600.

THE LATEST POINT FOR MEDICAL DEFENSE

We take the following from the Boston Medical and Surgical Journal, and emphasize it as a point of immense value for medical defense. It shows just what weight, in court, a united profession has.

At a recent trial of a damage suit against a Boston physician, defended by the Massachusetts Medical Society, the judge made a decision important not only to the defendant but to all surgeons. He heard only the plaintiff's side of the case, which included all the doctors who knew the

case, as well as the defendant himself. At this stage of the case the judge said in effect:

All the doctors in this case agree as to facts and opinions. You therefore have no question as to facts to present to the jury. Such differences as there are in opinion are concerning surgical technique, and these matters are not for any lay jury to pass upon. I therefore close the case and direct the jury to bring a verdict for the defendant.

This decision indicates a line of defense against the present epidemic of suits against members of our profession. If the professional experts on both sides, in open, fair discussion of the case before the trial, find they honestly agree on certain facts, those facts at least and the agreement upon them can be brought out clearly at the trial. Such differences of opinion as are discovered, if found to be purely technical, will never reach a jury. A few such court decisions would tend to discourage "contingent" lawyers, would check the blackmailing class of plaintiffs, and would leave to be attacked only those surgeons who may not be giving due skill and ordinary care.

AMERICAN HOSPITAL FOR HAVANA

It is reported that an American Hospital to cost \$300,000 is to be built in Havana for the benefit of English speaking people, resident or visiting.

The Boston Medical Journal becomes the property of the Massachusetts State Medical Society. It is now in its 184th volume and has from its beginning been one of the most influential journals in the country. If we look over the long row of volumes of this journal we shall discover the first record of a considerable number of important facts that have had a mighty influence in the advancement of medical science and practice; Puerperal Septicemia, Oliver Wendel Holmes; the Ether Question, Morton and Warren and Bigelow. The name will not be changed, and the journal will still remain the exponent of New England medicine. It would not be surprising if the Boston Medical and Surgical Journal in a few years became the official organ of all the New England states. It would seem reasonable to believe that one strong journal would serve the new England states better than a number of smaller ones. The conditions in all this group of states would appear very similar.

MALPRACTICE LIABILITY RATES INCREASED

A circular letter, distributed by the Aetna Life Insurance Company, gives notice that premium rates on physicians' and surgeons' malpractice liability insurance are to be increased about 300 per cent, owing

to the large number of claims and losses to the companies.

The Aetna Company has been selling group insurance at \$13.50 per person. Under individual policies the rate, after April 1, will be \$45. The group rate will be increased to \$40. There have been verdicts rendered against physicians recently which have seemed to stimulate people to enter suits against physicians.—Boston Medical and Surgical Journal.

The Charlotte Medical Journal has changed its name and is now known as The Southern Medicine and Surgery, and has been adopted as the official organ of the State Medical Society of the Carolinas and Virginia. This important journal is edited by M. L. Townsend, Charlotte, North Carolina.

DEARTH OF DOCTORS IN RURAL WEST VIRGINIA

We note from a recent communication that West Virginia is having some of the same trials and tribulations as Virginia and other states, with regard to supplying its rural communities with doctors. It is stated that the cities of the state are well supplied while in some of the counties people live fifteen to twenty miles from the nearest physician.

At the Rural Health Conference, recently held in Richmond, in the discussion of the subject of the need of doctors in rural communities, attention was called to the fact that New Zealand is solving this problem by subsidizing doctors for the country districts.

LIFE EXPECTATION

It is generally known that the average length of human life has considerably increased up to the age of fifty years, but after that age, the average expectation has lessened. Much speculation has been indulged in to explain this fact. It has generally been contended that the strain of modern life is responsible for the shorter life after fifty. But Professor Pearl in an article in the May Scientific Monthly holds to a different view. The N. Y. Medical Journal in an editorial abstract of Professor Pearl's paper, points out a different interpretation of the statistics.

The health measures which preserve the lives of the earlier age carries over into middle life a number of weaklings and defectives whose period of longevity is naturally shorter. The tempo-memo of earlier people cut short the lives of the less vigorous, therefore the average expectation began sixty or seventy would be greater then than now.

The Association of Surgeons of Great Britain and Ireland was recently formed at the suggestion of Sir Berkeley Moynihan and Sir Rickman Godlee. The purposes of this organization is to bring together in closer relationship the surgeons of the British Isles.

In order that discussion might be free and frank it was proposed that no reporters should be present at the meetings, every member being left at liberty to publish his communication as and when he pleased. The "British Journal of Surgery" was selected as the official organ of the association.

STOCK VACCINES OR AUTOVACCINES IN THE TREATMENT OF FURUNCULOSIS

A Maute, in *La Presse Medicale* for January 24, 1920, reviews the question of the advantages of auto-vaccines and stock vaccines in the treatment of furunculosis and believes that the advantage is with stock vaccines. Maute believes that the vaccine treatment is the proper treatment for this disease, which is really the most important question, but insists that the action of a vaccine is not due entirely to a specific antibody formed, but rather to the defensive reaction of foreign proteins and that stock vaccines more fully serve this purpose.

NEW EDITOR NEBRASKA STATE MEDICAL JOURNAL

F. A. Long, M.D., F.A.C.S., of Madison, Nebraska, has been elected editor of that excellent state journal. Dr. Long has been chairman of the committee on publication since the establishment of the state journal in 1916 and also chairman of the committee appointed to consider the plan of a state-owned journal. This experience has prepared Dr. Long to take up the work left by the lamented Dr. Aiken, the first editor.

THE SUPREME TEST

Manufacturers throughout the country are confronted with the most dangerous situation of this generation.

It is more than a crisis. It is a drive for the jugular vein of many leading industries. If this characterization is regarded as sensational, let any business man examine the so-called Volstead "anti-beer" bill known in the official records of the House of Representatives at Washington as H. R. 6,752.

The average business man, who has read in the newspaper dispatches from Washington that an "anti-beer" bill was pending, has seemingly shrugged his shoulders. Few, if any of them, have given a thought to the possibility that the measure affected them in the slightest degree.

Yet this very bill spells more disaster to the industries of this country than any other proposal in years. It is true that the seeming purpose of the latest Volstead bill is to upset previous rulings concerning beer as a medicine. If it stopped there, no substantial objection could be offered against it.

Under the cloak of preventing the use of beer as medicine by physicians, H. R. 6,752 would permit any

chemical or other manufacturing industry, using or depending upon alcohol to be shut down within thirty days. And what is more dangerous, no appeal could be made to the courts.

That is only one provision of the proposed new law. Another section would require the posting of permits for twenty days, before this basic chemical for many industries could be secured. Power is also given to compel the posting of a copy of the application upon the factory or business house. Then any one of a group of local, state or national officials may file a protest to it. By the time the red tape involved was unsnarled, any reputable company, concern or corporation might be in the hands of the sheriff or the federal courts in a bankruptcy proceeding.

If any more sensational or autocratic procedure is possible, the scene of it would probably be located in Russia or some other remote center of governmental disorder.

Fortunately, the bill has not passed the House. But the danger is acute. It may be passed within a few days, unless the manufacturers of this country make a protest. The first step has been taken. It was inaugurated by the New York Section of the American Chemical Society. A protest has been made to the Rules Committee of the House of Representatives. It is directed at H. R. 6,752.

Many important industries are now confronted with the supreme test. If a group of fanatics can jam this bill through now, while the leading manufacturers of the country have been lulled to sleep, anything is possible. The duty of the hour is to write or telegraph a protest to your senators and congressmen today against this real menace to American industries.

IOWA STATE UNIVERSITY NEWS ITEMS

Don M. Griswold

Dr. R. A. McGuire of Brighton spent a few days visiting friends at the University Hospital and in Iowa City.

Dr. C. S. Chase has been acting as medical officer at the Boy Scout Encampment in Yellowstone Park. The troop was organized in Clinton and made the trip in five weeks.

Dr. Lawson G. Lowery, assistant director of the State Psychopathic Hospital, returned from a vacation spent at the Springs in Missouri.

Dr. O. H. Plant, professor of pharmacology and Dr. John McClintock, professor of physiology and their families are spending their summer vacation at "The Dells" of Wisconsin.

Dr. S. T. Orton, professor of psychiatry and family are leaving for Stone Lake, Wisconsin, for a short rest.

The staff of the State Psychopathic Hospital has been enlarged by the addition of four new medical members.

Dr. F. J. Rhoner, assistant professor of medicine, spent a few weeks visiting with his family at their old home in Carroll, Iowa.

Dr. A. H. Blocklinger of the class of 1894 died recently at his home in Dubuque.

Dr. Henry Albert, professor of bacteriology and pathology, has been granted a year's leave of absence to go to California to regain his health. During his absence the teaching work of the department of bacteriology and pathology will be supervised by Dr. E. M. Medlar, pathologist at the University Hospital, and the work of the laboratories for the State Board of Health will be directed by Dr. Don M. Griswold, professor of hygiene and preventive medicine.

Dr. Ruth Wheeler, professor of dietetics, is making a detailed study of the milk supply of the University Hospital. Trained inspectors are doing the field work under Dr. Wheeler's directions and the research laboratory work is being carried out by the department of hygiene and preventive medicine.

The school for public health nursing gave a course for graduate nurses entering this field during the first session of summer school. The course was very well attended and proved very profitable for those taking it. All the nurses taking the course were placed in good positions on completion of the course.

The graduating class of nurses from the University Hospital went to Des Moines, July 27-28-29, to take the state examinations.

The extension division of the university held a public health institute for public health nurses July 18-29 inclusive. About fifty nurses attended. They were nurses engaged in county, school, rural and industrial work. The program was put on by the members of the faculty of the College of Medicine and the Extension Division.

Dr. F. R. Senska, second assistant in the department of orthopedics, has finished two years of training and is leaving to take up the work of a medical missionary in Africa.

Dr. C. R. Thomas of the student health service, served on the committee of judges in the recent state-wide "Better Baby Week."

Dr. Don M. Griswold, captain in the Medical Corps, Iowa National Guard, served as chief of laboratory section at Camp Dodge during the recent annual encampment.

Dr. R. A. McDonald of the student health service is spending the summer in the White Mountains.

Des Moines, Iowa, July 18, 1921.

Hon. N. E. Kendall,
Governor, State of Iowa,
Des Moines, Iowa.

ATTENTION: IOWA STATE BOARD OF HEALTH

Dear Sir:

I have the honor to submit the report of the Bureau of Venereal Disease Control for the year ending June 30, 1921:

The total funds available during the year was \$28,-215.86; \$15,000 being the state appropriation and \$13,-215.86 being the federal allotment.

The expenditures were as follows:

Administration	\$ 5,827.76
Laboratory	10,045.60
Treatment	5,071.28
Education	7,271.22
Total.....	\$28,215.86

Twelve clinics were maintained during the year in the following cities: Des Moines, Dubuque, Clinton, Fort Dodge, Mason City, Grinnell, Sioux City, Ottumwa, Council Bluffs, Marshalltown, Davenport and Manly; these were supported by the local counties or cities with the exception of the medication which was furnished by this Bureau.

On July 30, 1920, there remained under treatment at the various clinics, 497 cases and during the year 1471 cases were admitted and treated, classified as follows:

Syphilis	Gonorrhea	Chancroid
Male .....458	Male .....521	Male .....76
Female .....251	Female .....161	Female 4
Total.....709	682	80

The total number of consultations and treatments was 27,988. The total number of doses of arsphenamine or neo-arsphenamine administered was 8080.

In addition to the work of the clinics, private or city physicians administered free of charge 962 doses of arsphenamine or neo arsphenamine and 462 doses of mercury to indigent patients suffering with venereal disease, the medication being furnished by this bureau.

Through the activities of this bureau, a large number of cases were sent to the State University Hospital and were treated by Dr. N. G. Alcock.

There were 18,662 Wassermann tests made of which 2946 were positive, the balance being negative or rejected. There were 1154 gonorrheal tests made of which 361 were positive.

The physicians from ninety-four counties of the state availed themselves of the use of the venereal disease laboratory during the year, the number of examinations from each county being as follows:

Adair	62	Greene	1
Adams	1	Grundy	5
Allamakee	37	Osceola	2
Appanoose	150	Page	128
Audubon	4	Palo Alto	14
Benton	50	Plymouth	11
Blackhawk	618	Pocahontas	374
Boone	156	Polk	4702
Bremer	65	Pottawattamie	264
Buchanan	212	Poweshiek	77
Buena Vista.....	68	Ringgold	1
Butler	17	Sac	6
Calhoun	181	Scott	1387
Carroll	103	Shelby	7
Cass	35	Sioux	26
Cedar	19	Story	93
Cerro Gordo	162	*Guthrie	
Cherokee	178	Hamilton	27
Chickasaw	8	Hancock	32
Louisa	16	Hardin	69
Lucas	8	Harrison	24
Lyon	13	Henry	38
*Madison		*Howard	
Mahaska	17	Humboldt	1
Marion	254	Ida	44
Marshall	97	Iowa	42
Mills	9	Jackson	21
Mitchell	2	Jasper	136
Monona	17	Jefferson	33
Monroe	53	Johnson	4735
Montgomery	5	Jones	65
Muscatine	231	Keokuk	26
O'Brien	70	Kossuth	15
Clarke	12	Lee	759
Clay	42	Linn	1076
Clayton	8	Tama	17
Clinton	321	Taylor	1
Crawford	72	Union	37
Dallas	12	Van Buren	1
*Davis		Wapello	87
Decatur	19	Warren	2
Delaware	6	Washington	33
Des Moines.....	133	*Wayne	
Dickinson	21	Webster	322
Dubuque	464	Winnebago	14
Emmet	16	Winneshiek	5
Fayette	172	Woodbury	791
Floyd	19	Worth	18
Franklin	19	Wright	109
Fremont	44		

*Not Utilizing Laboratory.

The physicians of the state reported to the secretary of the State Board of Health 1143 new cases of syphilis, 2352 cases of gonorrhea and 127 cases of chancroid.

Dr. Jeannette F. Throckmorton gave 540 lectures in 112 towns reaching 84,500 women and girls.

The total number of pamphlets distributed was 36,228 in response to 1749 requests from individuals, schools and industries.

The venereal disease slides and charts were shown

ninety-three days at the state and county fairs, conventions, etc., during the year. The total number viewing these exhibits was 172,385. There were seventy film showings made with a total attendance of 24,785.

The director visited in an official capacity twenty-two cities and towns, addressing five county medical societies, three conventions and three conferences on social work.

There were 101 individuals reported to this office as sources of infection by the physicians of the state of which fifty-six were apprehended and placed under treatment. There were forty cases referred to this department from other states and sixteen were apprehended and placed under treatment.

Besides the regular correspondence, personal letters were sent to all the physicians of the state who were not reporting cases. Replies were received from practically everyone either stating that they would in the future comply with the law or that they did not treat venereal diseases. Only two of these letters were at all discourteous. Personal letters were sent to the mayors and druggists of the state and to the superintendents of the high schools in the county seats.

At the request of this bureau, the Interdepartmental Social Hygiene Board sent federal agents who made a thorough survey of social conditions in forty-five of the larger cities in Iowa. A copy of this report was sent from this office with a letter to the mayors and city physicians of the city in which the survey was made. The attorney-general was furnished a copy of these reports which he sent with a personal letter to each of the county attorneys. It is believed that much good has resulted from these investigations as the tone of the letters from the mayors, acknowledging receipt of the report, was most excellent.

There will be no federal funds available for carrying on the work of this bureau in the state during the ensuing year, therefore it will be necessary to confine our expenses to the sum of \$25,000 which was appropriated by the Thirty-ninth General Assembly.

Respectfully submitted,
WILBUR S. CONKLING, M.D.

SOCIETY PROCEEDINGS

Cerro Gordo County Medical Society

The Cerro Gordo County Medical Society held its meeting at the Rogers Hotel Thursday night, June 23.

Following a fine dinner a program was given, among the numbers being papers and addresses by Dr. E. L. Wurtzer, Dr. A. J. Cole, Dr. F. A. Barber and Dr. A. B. Phillips.

Hardin County Medical Society

The midsummer meeting of the Hardin County Medical Society which was held in Iowa Falls, Fri-

day, July 1, 1921, was well attended. The meetings were held in the Congregational Church, where interesting and instructive talks were given by Dr. A. M. Pond of Dubuque, president of the Iowa State Medical Society; Dr. C. E. Ruth of Des Moines; Dr. Bernard Fantus of Chicago; and Dr. C. W. Mangun of Iowa Falls. At 5:30 a cafeteria dinner was held at Cafe Miller. No business was transacted at this meeting. New officers will be elected at the mid-winter meeting which is to be held in Eldora.

Marion County Medical Society

The Marion County Medical Society met in regular June session in the city park at Bussey, Iowa, the afternoon of June 23. The following program was presented:

Treatment and Prevention of Pyorrhea Relative to Elimination of Infection, P. A. Edmand, D.D.S., Pella.

Eclampsia, Harold E. White, M.D., Knoxville.

Tri-Facial Neuralgia (with case report), Clinton T. Brann, D.D.S., Knoxville.

Polycythemia (with report of two cases), Tom B. Throckmorton, Des Moines.

Informal Talk on the Venereal Problem and its Control, with Special Reference to the Cooperation of the Medical Profession, Wilbur S. Conkling, Des Moines.

As a conclusion to the scientific program, there was a discussion on the subject of obtaining unclaimed bodies for dissecting purposes at the State University of Iowa. The members agreed to use their influence in furthering the cause.

The finale was an elegant five course dinner served to the members, their ladies and visitors. All present were of the unanimous opinion that Dr. E. C. McClure was a most admirable host.

The attendance was unusually good. About fifty were present including members of both medical and dental professions from Marion, Monroe and Mahaska counties.

C. S. Cornell, Sec'y.

Palo Alto County Medical Society

The Palo Alto County Society met at Emmetsburg on May 20, 1921, at the city hall. A business session was held from 11 a. m. until dinner time when the members reassembled at the Waverly Hotel, where dinner was served. An afternoon session beginning at 1:30 p. m. was the best part of the meeting.

Dr. Geo. M. Crabb of Mason City read a paper, Urinary Calculi—Diagnosis and Treatment. This was followed by instructive discussion. Members and others in attendance included: Drs. Geo. M. Crabb, Mason City; Chas. Cretzmeyer, Algona; E. D. Beaty, Mallard; G. Baldwin, Ruthven; H. M. Huston, Ruthven; P. J. Hession, Graettinger; J. W. Woodgridgem, Cylinder; H. A. Powers, H. R. Powers, F. X. Cretzmeyer, Jas. Hennessey, Harold L. Brereton, Emmetsburg.

Harold L. Brereton, Sec'y.

Pocahontas County Medical Society

Pocahontas County Medical Society was held at Palmer, Tuesday afternoon, June 28, when Dr. C. E. Stewart entertained the Pocahontas county medics. Those in attendance were: Dr. Chase, Ft. Dodge; Dr. Whitney, Sr., and Dr. Whitney, Jr., Patterson and Dr. Maloney of Fonda; Dr. Porath, Varina; Dr. Riordan and Dr. Parker, Pocahontas; Drs. Smillie, Townsend and Jones, Gilmore City; Drs. Beam and Campbell, Rolfe; Dr. Loving, Havelock; Dr. Loell, Ft. Dodge; Dr. Hovenden, Laurens, and Dr. Stewart, Palmer.

Pottawattamie County Medical Society

A community medical discussion was held under the auspices of the Pottawattamie County Medical Society at Council Bluffs, Saturday, July 30, 1921. Headquarters and place of meeting were Jennie Edmundson Memorial Hospital.

The program was as follows: Presentation Unusual Lung Condition, Dr. M. Moore, Walnut; Unusual Tumor of Uterus Requiring Nephrectomy, Presentation of Case, Dr. W. P. Hombach, Council Bluffs; Presentation of Unusual Case, Dr. John Tamisiea, Missouri Valley; The County Medical Society as a Factor in Determining the Future of Medical Practice, Dr. F. E. Sampson, Creston; Thymo Lymphatic Findings in Three Cases of Sudden Death, Dr. A. A. Johnson, Council Bluffs; Demonstration in the Application of Plaster of Paris—Presentation Orthopedic Cases, Professor Steindler, Iowa City; Presentation Unusual Heart Cases, Dr. V. L. Treynor, Council Bluffs; Upper Lid After Trachoma—Presentation of Cases, Dr. F. W. Dean, Council Bluffs; Presentation of Post Radium Carcinoma Cases, Dr. D. Macrae, Jr., Council Bluffs.

Luncheon 12:30—Jennie Edmundson Memorial Hospital.

Officers—President, L. L. Henninger; vice-president, John McAtee; secretary, A. A. Robertson.

Program Reorganization Committee—D. Macrae, Jr., G. A. Spaulding, M. E. O'Keefe.

Van Buren County Medical Society

The third annual outdoor picnic meeting of the Van Buren County Medical Society was held Tuesday, July 12, on the Wm. Carruthers lawn at Pittsburg. Upward of seventy-five persons were present, visitors from Keokuk, Ottumwa, Eddyville, and other places outside the county. The program was short, the day being given over mostly to social enjoyment. Dr. Frank M. Fuller of Keokuk read a paper on Diagnosis of Diseases of Children, and Dr. G. R. Neff of Farmington read a very interesting paper entitled A Day in the Open. Dinner was served cafeteria style.

Upper Des Moines Medical Society

The medical men of Dickinson county extended invitations to the members of the Upper Des Moines Medical Society, their wives and ladies to a full day

at the West Okoboji Golf and Country Club, for Friday, July 8. This meeting was one of combined business and pleasure with an excellent program arranged.

At 2:00 o'clock the medical discussions were given: Gastric Analysis, Dr. E. E. Morton, Des Moines; Raynaud Disease—Presentation of Case, Dr. Chas. Colleston, Spencer; Constipation of Infants and Children, Dr. Geo. Keeney, Mallard; Disease of the Nose and Throat and Accessory Sinuses and Their Relation to General Practice, Dr. R. R. Snyder, Des Moines, Dr. Carroll, Cedar Rapids.

A dinner was served at the club house at 5:00, followed by a boat ride about the lakes.

The Mississippi Valley Medical Association

A Clinical Meeting

An attractive innovation in medical meetings has been undertaken by the Mississippi Valley Medical Association, to be held in St. Louis on October 13, 14 and 15. For this occasion a most unusual program, entirely free from the ordinary trite and formal medical paper reading, has been arranged.

Program participants have been carefully selected from eminent specialists among the leading authorities in the various fields of medicine. The preliminary announcements contain such names as Dr. Llewellys F. Barker of Baltimore, Dr. Anthony Bassler of New York, Dr. Chas. H. Frazier of Philadelphia, Dr. John de J. Pemberton of Rochester, Minnesota, Dr. Isaac Abt of Chicago, Dr. C. Jefferson Miller of New Orleans, and others of equal prominence. These noted clinicians have accepted invitations to give scientific addresses (not papers) consisting of clinical demonstrations and discussions upon borderline subjects pertaining to their particular specialties. Because of their clinical bearing and wide medical scope, the subjects chosen will undoubtedly be of more interest to the general practitioner than to the specialist.

The third day of the program will be given over to clinics in the various St. Louis hospitals and universities, at which the guests of this Society as well as St. Louis physicians will participate.

The date of this meeting coincides with the Centennial Celebration and Pageant of St. Louis, which event will no doubt afford additional means for entertainment and social enjoyment to those attending this meeting. Dr. William Engelbach, University Club building, St. Louis, is chairman of the Committee of Arrangements and will gladly answer inquiries requesting further information.

Medical Veterans of the World's War

The "Southwest" and "Missouri Valley" Medical Associations will hold their joint session in Kansas City, October 25 to 28, 1921. Dr. E. H. Skinner of Kansas City is the "Southwest" president, and Dr. W. O. Bridges of Omaha is president of the "Missouri Valley." A four-day meeting is being planned

with clinics in the various hospitals each morning and reading of papers in the afternoons. Five sections will hold sessions, comprising medicine, surgery, obstetrics, eye and ear, and genito-urinary. Two general sessions will be held, and one evening session, when the orations will be given. Arrangements for clinics are being made by the officers and committees of the "Medical Veterans of the World's War," which body will be in session during the week. One Monday, October 24, the "Mid-Western Association of Anesthetists" will be organized and present a program. Dr. Morris H. Clark, secretary, Rialto building, Kansas City, Missouri.

Thus will be provided a full week of rare intellectual entertainment in Kansas City, where every doctor, be he general practitioner or specialist, will find an abundance of pabulum for brain absorption, as well as ample recreation for his physical improvement and soul inspiration.

As the number of papers will be limited, it is important that those members who wish to present papers should communicate their titles to the secretary not later than July 15. Dr. F. H. Clark, secretary, S. W. Association, Oklahoma City, Oklahoma.

Headquarters and meeting place, Hotel Baltimore. The exhibits will be placed on the same floor with the assembly rooms. Firms desiring to exhibit should communicate with Dr. Charles Wood Fassett, secretary, 115 East Thirty-first street, Kansas City, Missouri.

Tri-State District Medical Society

The Tri-State District Medical Society extends a hearty invitation to the physicians of Iowa to attend its annual assembly which is to be held at Milwaukee, Wisconsin, November 14, 15, 16 and 17. The following is a partial list of the members of the profession who have accepted places on the tentative program:

Dr. George Armstrong, prof. of surgery, faculty, McGill University, Montreal.

Dr. Edward William Archibald, prof. of clinical surgery, faculty of medicine, McGill University, Montreal.

Commander William Seaman Bainbridge, United States Navy, medical department, New York.

Dr. Arthur Dean Bevan, prof. of surgery and head of surgical department, Rush Medical College, Chicago.

Dr. Hugh Cabot, dean and prof. of surgery, University of Michigan, medical school, Ann Arbor.

Dr. Henry A. Christian, Hersey prof. of the theory and practice of physic, Harvard University, school of medicine, Boston.

Dr. John G. Clark, prof. of gynecology, University of Pennsylvania, school of medicine, Philadelphia.

Dr. Charles P. Emerson, dean and prof. of medicine, Indiana University, school of medicine, Indianapolis.

Captain A. M. Fauntleroy, M.C., U. S. Navy, U. S. Naval Hospital, New York City.

Dr. Charles H. Frazier, prof. of neurosurgery, Uni-

versity of Pennsylvania, school of medicine, Philadelphia.

Dr. J. Claxton Gittings, prof. of pediatrics, University of Pennsylvania, school of medicine, Philadelphia.

Dr. William P. Graves, prof. of gynecology, Harvard University, school of medicine, Boston.

Dr. Warfield T. Longcope, Bard prof. of the practice of medicine, Columbia University, college of physicians and surgeons, New York.

Dr. John P. Lord, prof. of orthopedic surgery, University of Nebraska, school of medicine, Omaha.

Dr. Willis F. Manges, prof. of roentgenology, Jefferson Medical College, Philadelphia.

Dr. William J. Mayo, Mayo Clinic, Rochester.

Dr. Thomas McCrae, prof. of medicine, Jefferson Medical College, Philadelphia.

Dr. Reginald H. Sayre, prof. of orthopedic surgery, University and Bellevue Hospital, medical college, New York.

Dr. Alfred Stengel, prof. of medicine, University of Pennsylvania, school of medicine, Philadelphia.

Dr. J. Bentley Squier, prof. of urology, Columbia University, college of physicians and surgeons, New York.

Dr. Frederick Tice, prof. of clinical medicine, University of Illinois, college of medicine, Chicago.

Dr. Henry Enos Tuley, dean and professor of pediatrics, University of Louisville, school of medicine, Louisville.

Prof. H. C. Jacobaeus, Stockholm, Sweden.

Dr. Joseph A. Pettit, Portland, Oregon.

Besides the contributions in form of essays and addresses, a large portion of the time will be devoted to the diagnostic clinic and an abundance of material is being arranged by the Milwaukee physicians for the clinics. The association will be the guest of the Milwaukee County Medical Society which is heartily cooperating in making the meeting of great benefit to the physicians who will attend.

Doctors, make your arrangements now to attend the assembly, which offers four full days of post-graduate work. Bring your ladies with you. A fine program is being arranged for their entertainment. The program in full will appear in a later number of this Journal.

Program Committee—Dr. Horace M. Brown, Milwaukee, Wisconsin; Dr. Tom B. Throckmorton, Des Moines, Iowa; Dr. Don Deal, Springfield, Illinois. George V. I. Brown, Milwaukee, Wisconsin, president; William B. Peck, Freeport, Illinois, managing-director.

Mid-Western Association of Anesthetists

The anesthetists of the Middle-West will hold an organization meeting in Kansas City, Missouri, October 24-28, in conjunction with the meetings of the Medical Veterans of the World War, Missouri Valley Medical Association, Medical Society of the Southwest and the National Anesthesia Research Society.

A splendid scientific program of pertinent papers

is in the making for this occasion and the Clinics to be held will offer every opportunity to see and demonstrate the latest methods of anesthesia.

Membership in the Mid-Western Association of Anesthetists is open to all licensed and qualified members of the medical and dental professions as well as to research workers holding doctorates of similar standing, who are interested in advancing the science and practice of anesthesia.

A special session will be devoted to Anesthesia for Oral Surgery and Dentistry.

Headquarters will be at the Hotel Muehlebach and the scientific sessions and annual dinner will also be held there. As a large attendance is expected at this joint meeting make your hotel reservations now.

If you wish to present a paper during the meeting kindly notify the organization secretary at once, giving the title and brief abstract of same.

Fill in the details of the enclosed membership application and return it with your check or money order for the annual dues (\$5) so that your charter membership card may be sent you. Also send in the names and addresses of as many prospects for membership as you may know of.

The visiting ladies will be delightfully entertained so let the secretary know how many will be in your party.

The following are the officers for the organization meeting: President, R. M. Waters, M.D., Sioux City, Iowa; vice-presidents, David E. Hoag, M.D., Pueblo, Colorado, and Nettie Klein, M.D., Texarcana, Texas; secretary-treasurer, Morris H. Clark, M.D., Kansas City, Missouri, and members executive committee, B. H. Harms, D.D.S., Omaha; J. E. Craig, D.D.S., Kansas City; A. E. Guedel, M.D., Indianapolis; R. S. Adams, M.D., San Antonio; R. L. Charles, M.D., Denver, and E. M. Moorehouse, M.D., Yankton, South Dakota.

The organization officers and executive committee will do everything they can to make this meeting interesting, instructive and enjoyable and your cordial cooperation and support are solicited in launching the Mid-Western Association of Anesthetists on a successful career for the benefit of all concerned.

For further information, address,

Yours fraternally and cordially,

F. H. McMECHAN, M.D., Organization Secretary, Lake Shore Road, Avon Lake.

MORRIS H. CLARK, M.D., Secretary-Treasurer, Rialto Building, Kansas City, Missouri.

Iowa doctors will make next winter an European, Mediterranean, Orient, Palestine and Holy Land cruise, chaperoned by Dr. J. W. Cokenower of Des Moines, leaving New York February 4, 1922, on chartered S. S. Empress of Scotland, and invite the doctors of other states to join them in their mid-winter vacation trip.

THE COUNTY TUBERCULOSIS CLINIC

One of the most significant public health movements in the State of Iowa during the present year has been the County Tuberculosis Clinic. These clinics are held under the auspices of the Iowa Tuberculosis Association. They are arranged upon formal invitation from the county medical society, which entails the presence and support of the physicians. Part of the cost is usually defrayed from the proceeds of previous Christmas seal sales held by county public health organizations. This insures the cooperation of the lay people interested in public health with the medical profession. The State Tuberculosis Association arranges the clinic, furnishes one or more examining specialists and sends a staff field nurse, who has special tuberculosis training, for several days work in advance of the clinic. Thus considerable preparatory publicity is afforded and in this way the clinic becomes a means of education of the public in regard to health. The Board of Control lends its cooperation to the Iowa Tuberculosis Association in the clinic movement.

Clinics have been held this year as follows:

COUNTY	TOWN	Date 1921	Total Regis- tered	Adults	Chil- dren	Chest Exam.
Audubon	Audubon	Jan. 23	214	79	135	41
Kossuth	Algona	Feb. 4	87	37	50	37
Mahaska	Oskaloosa	Feb. 15	60	42	18	47
Cerro Gordo	Mason City	Mar. 24	58	44	14	48
Keokuk	Sigourney	April 15	51	34	17	46
Story	Ames	April 22	34	17	17	33
Wright	Clarion	April 29	42	24	18	42
Lyon	Rock Rapids	May 6	61	37	24	31
Audubon	Exira	April 8	250	73	177	35
Sioux	Hawarden	June 3	28	15	13	28
Appanoose	Centerville	June 3	67	44	23	28
Hamilton	Webster City	May 29	83	39	44	38
Floyd	Charles City	June 10	180	48	132	30
Louisa	Columbus Jct	June 24	30	18	12	30
Howard	Cresco	June 24	65	41	24	45
Humboldt	Humboldt	June 25	135	42	93	48
Linn	Cedar Rapids	July 1	125	75	50	55
Monroe	Albia	July 15	65	40	25	30
Van Buren	Keosauqua	July 22	57	45	12	31
Calhoun	Rockwell City	Aug. 29	46	31	15	43
Butler	Allison	Aug. 5	40	21	19	35
Fayette	Oelwein	Aug. 12	40	23	17	36
Shelby	Harlan	Aug. 19	70	39	31	41

In some instances child welfare clinics have been held at the same time as the tuberculosis clinics and in many cases an eye, ear, nose and throat specialist has been present.

Aside from the service to the local physicians in making them more alert for tuberculosis and in giving them the opportunity to compare their own diagnostic methods with those of specialists from elsewhere, the clinic is of value to the general community in many ways.

1. It emphasizes the importance of a periodical physical examination.

2. It discovers cases of tuberculosis. It results in securing treatment for these cases and removes sources of infection from the community. In this regard the superintendent of the state sanatorium has just written that because of this year's clinics there are many more applicants for admission to the

state sanatorium creating a waiting list which will tax the capacity even of the new building. Yet if it had not been for these clinics these many cases would have remained in the community and would have been active sources of danger to other people.

3. Where the examination does not reveal tuberculosis it practically always calls attention to some conditions which need remedying and affords the patient advice which results in his taking better care of his general health in order to prevent a breakdown.

4. It gives an opportunity for examination to a great many people who either could not afford an examination or who might have other reasons for not having one.

5. The county clinic becomes a valuable part of the public health program of the county association which enables it to interest many people in its work and to gain public support.

6. It gives evidence of the unselfish interest of the medical profession and its willingness to co-operate in preventive medicine and public health work.

7. It is a valuable means of publicity and of educating the community in public health in such a way as to contribute to the betterment of community health and to the eradication of preventable diseases.

MEDICAL NEWS NOTES

Organization of the State Health Bureau has been completed. Dr. Frank T. Launder of Garwin was chosen president of the bureau for the coming year. He succeeds Dr. Charles S. Grant. Dr. Grant remains a member of the board.

In accordance with the statute passed by the last general assembly, creating a state board of examiners, the bureau elected the following men to constitute the new board:

Dr. H. C. Eschbach, Dr. G. F. Severs, Dr. William Gerard of Cedar Rapids, and Dr. S. J. Olson of Des Moines.

The embalmers examining board was chosen as follows:

Dr. C. S. Grant, Dr. G. F. Severs, C. S. Hopkins, L. E., and Dr. Jesse A. West. Leroy C. Dunn, who has been a member of the embalmers examining board, resigned.

Dr. Launder, Dr. Eschbach, Miss Anna Drake and Miss Amy Beers were chosen members of the nurses examining board.

There will be no change in the policies or management of the Sawyer Sanatorium, White Oaks Farms, Marion, Ohio, owing to the fact that Dr. C. E. Sawyer has become President Harding's personal physician.

Dr. Carl W. Sawyer, who has been chief of the

professional department of the sanatorium for several years, and the regular staff of assistants will continue to treat nervous and mental cases as formerly.

A house book telling more about our work in detail will be sent on request; address the Sawyer Sanatorium, White Oak Farms, Marion, Ohio.

On the 15th of August an important addition to the personnel of the Grinnell Clinic will be made when Dr. W. Whitfield Hansell of Ottumwa, takes charge of the department of surgery. This department has reached a stage of such importance that it will be necessary for Dr. Hansell to devote his entire time to the practice of surgery and surgical consultations.

This clinic is constantly looking forward to improved service in the different departments of medicine and the announcement that their surgeon will devote his attention to this branch exclusively will be received by the friends of the organization with pleasure. Dr. Hansell is unusually well prepared for this position by his long period of training, not only having completed the regular medical course at the State University, but having spent five years since that time in preparation for this specialty. His training has covered the whole field of surgery and he has had the advantage of some of the best hospitals in this country and Canada.

Dr. Hansell graduated from the medical department of the State University in 1916 having previously taken the degree of bachelor of science from the same institution. He was an interne in the Montreal General Hospital in 1916-17 doing major surgery for one year. In 1917-18 he served as interne in the Boston Children's Hospital giving special attention to surgery of children. He then went to Roosevelt Hospital as house surgeon, one of the largest hospitals in New York City, where he had special training in the surgery of women in 1918 and general surgery in 1919. He was in Fordham Hospital of Bellevue and Allied Hospitals in 1919 and 1920 during which time he was trained in surgery and obstetrics. Later in 1920 he spent some time in the Michigan Mutual Hospital in the study of industrial surgery.

HOSPITAL NOTES

Work on the construction of the new wing and addition to the Jennie Edmundson Memorial Hospital is to commence at once, according to decision reached at a meeting of the officers of the Woman's Christian Association, together with J. Chris Jensen, architect who drew the plans. The contract for the construction of the new addition was let to the Parsons Construction Company of Omaha for \$148,268, and carries with it both the wing to be constructed to the north or east of the present building on East Pierce street and the kitchen structure at the rear.

Miss Mabel Resor goes to Java in August to take charge of one of the Centenary hospitals and will represent Charles City in that field. She goes from the First M. E. Church here. On the 7th she will give a talk in Charles City on her work in that field.

A hospital has been opened at Emmetsburg which is under the management of a board of directors consisting of nine laymen, five men and four women. Mr. C. J. Frye, vice-president of the Commercial Bank is the president of the board, and Mrs. Jos. Higgins is the secretary and treasurer. The association which the board of directors represent is called the Palo Alto Hospital Association, it being intended that the hospital will serve in the near future not only Emmetsburg, but the whole county. A large, well located residence has been remodeled and equipped for the present needs. There are eight beds with no crowding. The rooms have been furnished by various societies and organizations of Emmetsburg and the county.

A formal opening was held on May 30, 1921. Miss I. W. White, R.N., is the superintendent.

Mr. Harold Grimm, formerly of the Security Laboratory of Cedar Rapids will be associated with Dr. McNamara and they will be assisted by efficient technicians at the Finley Hospital, Dubuque.

The laboratory is equipped to do all the routine, as well as the more complicated tests of pathology, bacteriology and serology. Every effort will be made to cooperate with you in the solving of your laboratory problems.

Mrs. Della Gleason of Mason City, who was known in Waverly for many years as Miss Della Redington, has presented to Mercy Hospital in this city a large and handsomely framed picture of Abraham Slimmer. In the picture with him is that faithful dog of whom Mr. Slimmer thought so much and who for years was his constant friend and companion. Mr. Slimmer was the founder of this hospital and it was only by his good-hearted generosity that the splendid hospital which we now have was possible.

The original building, which was erected in 1878, and the beautiful site, were Mr. Slimmers' home for nearly forty years. He deeded the land, seven acres, and the buildings then on the spacious lawn to the Sisters, for hospital purposes. The first addition was built in 1904. The second addition, containing thirty private rooms, two large operating rooms and a large sun parlor, was built in 1913. These additions cost \$49,000. The fund for these improvements was headed by Abraham Slimmer with \$5,000, followed by Father Mulhall with \$5,000.

Limited Doctor Fees

A dictum has been issued by the board of trustees of Johns Hopkins Hospital under which surgeons

and physicians are not to be permitted to charge more than a fixed amount for their professional services. The decision of the board already has been assailed by professional men who object to the idea as a principle and will oppose it whenever possible. It is said that the Johns Hopkins board reached a decision after a very long and thorough consideration of the various conditions surrounding the medical and surgical world, but that does not remove the issue from debate by members of the two professions.

From Chicago comes a very energetic objection to the arbitrary fixing of fees at Johns Hopkins. They evidently fear the spreading of the idea and the possible fixing of fees by other hospitals, basing their action on the precedent established at Johns Hopkins. Under the ruling of the Johns Hopkins board a surgeon cannot collect a fee of more than \$1,000 for an operation nor can a physician charge in excess of \$35 a week for attendance upon a patient within the hospital. The Chicago physicians and surgeons complain against the thing in principle, arguing that nine-tenths of the operations performed by the best surgeons in Chicago are for the poor without charge. The inference then is drawn that if the charity cases are to continue, the well to do must pay big fees in order to provide the surgeons and physicians with a chance to exist.

The Chicago argument is not without merit. Neither is the ruling of the Johns Hopkins board entirely without justice and reason. Since the two opinions are so widely at variance it would seem that the safer thing in the controversy would be a moderate middle ground. The poor must have their surgical and medical attention whether it is paid for or not. On the other hand, it seems unfair for a patient of means to be charged according to the size of his pocketbook and not for the value and importance of the work performed.—Sioux City Journal.

PERSONAL MENTION

Dr. Wm. J. Cochrane, who has practiced medicine in Minneapolis for the past fifteen years, has located in Monticello, Iowa.

Dr. C. G. Thomas and Dr. T. M. Redmond will enter into a partnership for the practice of medicine at Red Oak about July 1, 1921.

Dr. M. J. Kenefick's Studebaker was stolen from the hospital garage late Saturday night, and it was not till Monday, when the Mason City police phoned, that any trace of it was found. The car had been left on the Mason City streets, but nothing had been taken from it.

Dr. D. J. Brookings of Woodward, suffered a paralytic stroke some months ago and has retired after forty-nine years of practice.

A number of Sioux City physicians are doing post-graduate work: Dr. Harry Schott, orthopedic sur-

gery in Boston; Dr. B. A. Melgaard, pediatrics under Dr. Abt; Dr. Harold Brown is in New York City, and Dr. J. A. St. Onge, is doing post graduate work at the State University at Iowa City.

Dr. W. F. Bowser, formerly of Elberon, after a special course on the eye, ear, nose and throat, has located at Davenport for practice.

Dr. F. T. Scanlan, formerly of Clear Lake, has located at Terre Haute, Indiana.

Dr. T. A. Willis, Clear Lake, has removed to Cleveland, Ohio.

Dr. Edward D. Risser, Iowa City, has located at Winona, Minnesota.

Dr. Gerald Shuell, class 1920, State University of Iowa, is associated with Dr. H. F. Givens, West Bend.

Dr. Alfred S. Burdick of Chicago has been elected to fill the vacancy as president of the Abbott Laboratories caused by the death of Dr. W. C. Abbott. Dr. Burdick has been closely associated with the Abbott Laboratories for a number of years having served the past six years in the official capacity of vice-president and general manager.

Dr. Harry C. Eschbach of Albia has been appointed a member of the Iowa State Board of Health to succeed Dr. W. L. Bierring. Dr. Bierring has served on the board for many years with distinction. Dr. Eschbach is a worthy successor.

Dr. A. Weaver, who has been taking a special course in medicine at the State University at Iowa City, returned to his home in Cumberland, July 17, to resume practice.

OBITUARY

Dr. Albert Herman Blocklinger, in his fifty-fourth year died at Finley Hospital, Dubuque, Wednesday, July 20, 1921, at 9 o'clock p. m.

Doctor Blocklinger, who was ill less than a week, was stricken with pneumonia. At first mild, it developed rapidly, and despite the efforts of the best specialists of Dubuque, Iowa City and Chicago, he died.

It was just twenty years ago, in 1901, when Doctor Blocklinger came back to Dubuque from LaMotte, Jackson county, Iowa, and began practice. He was a man of finished education, having won degrees in leading medical and technical institutions in this country and abroad.

Born in Dubuque, November 26, 1867, he spent his childhood and early manhood here. Later taking up the study of medicine, he graduated from the Iowa Medical University in 1894, first locating at LaMotte, where he practiced for five years. In 1900 he took a post-graduate course at Vienna, Berlin, and Munich, specializing in internal medicine and x-ray. He graduated in electro-therapeutics at the Illinois institution in 1905, and as late as 1915 did more post-

graduate work in x-ray in Philadelphia.

In 1912 Doctor Blocklinger, already recognized as a national authority, was appointed state lecturer on tuberculosis. In war times he was on the medical examining board and still held at the time of his death a captain's commission in the medical reserve corps. He received his degree as doctor of philosophy in 1918.

Doctor Blocklinger in 1910 was president of the Dubuque County Medical Society. He was prominent in fraternal circles, including Mosaic Lodge No. 125, A. F. & A. M.; Dubuque chapter R. A. M.; Siloam chapter, Knights Templar; DeMolay Consistory, Elkahir Temple, Oxus Grotto and the Elks. In medical societies he belonged, in addition to his local connections, to the American Medical Association, Radio-Logical Society of North America and the Iowa State Medical Society.

Resolutions of the Dubuque County Medical Society upon the death of Dr. A. H. Blocklinger.

Whereas, Providence has removed from our midst, Dr. A. H. Blocklinger of this city; therefore be it

Resolved, First, that we lament our great loss in the death of Dr. Blocklinger, a man of most genial disposition and fast loyalty to his friends. We esteem Dr. Blocklinger as one of our best citizens, always ready to do his full duty to his fellowmen, and contributing freely to the program of his native city.

Resolved, Second, that we recognize in Dr. A. H. Blocklinger the high characteristics of a progressive up-to-date physician, loyal to the best interests of our profession and giving his time freely and generously to the public, in the capacity of a physician.

Resolved, Third, that we extend to his family, our deepest sympathy.

Resolved, Fourth, that a copy of these resolutions be sent to his family, and that a copy be furnished the Daily Press and the Iowa State Medical Journal, and that these resolutions be properly engrossed on the records of the Dubuque County Medical Society.

A. M. Pond,
W. P. Slattery,
J. R. Guthrie,
Committee.

Dr. T. D. Ford, veteran physician of Bremer county, died at his home in Plainfield on Tuesday, July 19, after an illness of several months, his death being caused by a cancer affecting the throat. On January 6 of this year, Dr. Ford suffered a severe fall, which laid him up for some time, and though he recovered sufficiently to be about again, his general health has failed rapidly since that time.

Dr. Ford had been a practicing physician and surgeon in Bremer county since 1883, at which time he located in Plainfield.

Edward William Bittner, formerly of Wheatland, was born in Solon, June 13, 1884, and died in Cedar Rapids, June 19, 1921, in his thirty-seventh year.

Receiving his education in the public schools he

later went to Iowa City where he graduated from the Academy in 1903, after which he entered the State University of Iowa to take a course in medicine which he completed just fourteen years ago, graduating in June, 1907.

He took up the practice of medicine in Wheatland immediately and made his home there up to the time of his death.

In 1910 he was united in marriage to Miss Arlyn Millie Dance, whose home was south of Lisbon and where her parents still reside.

Dr. Wallace Calvin Abbott, president of the Abbott Laboratories, died at his home in Chicago, July 4, aged sixty-four years.

Dr. Abbott was born at Bridgewater, Vermont, a graduate of Dartmouth College; received his degree as Doctor of Medicine from the University of Michigan in 1885, and began his practice in Chicago in 1886.

Dr. Abbott was a pioneer in the field of alkaloidal medication, and more than thirty years ago established the Abbott Alkaloidal Company, now the Abbott Laboratories. He was an author of some reputation and was editor-in-chief of the American Journal of Clinical Medicine.

For the past five years, Dr. Abbott had encouraged extensive research work along the line of new medicinal chemicals, and, as a result, a number of remedies formerly made only in Europe, are now manufactured by the Abbott Laboratories.

Dr. Abbott was a man of broad vision and great energy; an organizer of rare ability, warm-hearted and beloved by his employes and business associates. He was a member of the Methodist Church, American Medical Association, Illinois Medical Society, Chicago Medical Association, Medical Editors' Association, American Drug Manufacturers and American Pharmaceutical Associations, the A. F. & A. M. Consistory and Shrine.

MARRIAGES

Dr. Orrie Ghrist of Ames and Miss Eva Kurtz of Nevada, July 4, 1921.

Dr. George Marquis of Colfax and Miss Ola Rae Cook of Woodson, Kansas.

Dr. W. A. McNichols of Osceola and Miss Esther Zook of Adair, June 30, 1921.

Dr. Linwood C. Gardner of Osceola and Miss Gladys M. Fletcher of Ochevedan. Dr. Gardner will be associated with the Sells Clinic, Osceola.

W. B. SAUNDERS COMPANY

This enterprising medical book publishing company which has done so much to advance the interests of the medical profession has not forgotten the interests and welfare of its employes, and has, according to the Boston Medical Journal, arranged "almost luxurious rest, and recreation rooms for the

women and the men. In addition to useful furniture, there are artistic ornaments, musical instruments, libraries, and facilities for electrical cooking." The motto of the company is "work with rather than work for."

BOOK REVIEWS

TRAUMATIC SURGERY

By John J. Moorhead, M.D., F.A.C.S., Late Lieut.-Col. Medical Corps American Expeditionary Forces; Professor of Surgery and Director of Department of Traumatic Surgery, N. Y. Post-Graduate Medical School and Hospital. Second Edition, Entirely Reset, Octavo of 864 Pages with 619 Illustrations. W. B. Saunders Company, 1921. Cloth \$9.00 Net.

The first edition of this extremely valuable work appeared four years ago, just before we entered the war with Germany, and because of a new experience gained in traumatic surgery, a new and revised edition appears appropriate at this time. So many general surgeons are now interested in industrial surgery that the new edition will be particularly welcome. With few changes the first edition will still fill an important place in a surgeon's library.

The arrangement of the book is first a consideration of wounds; injuries of the joints; dislocations of bones; fractures of every variety; deformities; injuries of the head and the spine; injuries to the chest and abdomen; blood-vessels nerves, and injuries from electricity. Every subject relating to traumatic surgery is treated with a considerable degree of detail. It is especially in relation to fracture that the exceptional value of the book comes; a line of serious injuries of great economic importance to the injured and to industry. The general surgeon may obtain a vast amount of information from this volume and it is particularly adapted to the needs of the general practitioner.

DIAGNOSTIC AND THERAPEUTIC TECHNIC

A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, M.D., Late Lieut.-Col., M.C., U. S. A. Attending Surgeon to the City Hospital and to St. Bartholomew's Hospital, New York City, Consulting Surgeon to the Nassau Hospital, Mineola, L. I., Third Edition, Entirely Reset. Octavo of 894 Pages with 892 Illustrations, Mostly Original. W. B. Saunders Company, 1921. Cloth \$8.00 Net.

This important practical work presents to the practitioner the technic of treatment in a way to assist him in the every day work of a physician and surgeon. Chapters one and two presents the whole subject of anesthesia, general and local, in all the forms recognized in the practice of surgery, in detail, and by illustration, including the apparatus employed

and the manner of preparation. By following these chapters, there seems no difficulty in selecting the form of anesthesia preferred or applicable to the particular case, and in connection with anesthesia, spgmomanometry is discussed.

An important and convenient section of the book is devoted to the technic of transfusion, infusion of physiologic, salt solution, acupuncture, venesection, scarification, etc. Administration of arsphenamin and neo-arsphenamin, diphtheria antitoxin, vaccination, etc. These chapters are profusely illustrated, showing apparatus and methods, saving awkward and unsatisfactory technic which are often responsible for unsatisfactory results.

A chapter is devoted to the disinfection of wounds, particularly the Carrel-Dakin method. The Bier hyperemic treatment is described with apparatus, spinal or lumbar puncture.

Without mentioning every subject treated we may state that every field of medical practice where a technic is required is illustrated. It would be difficult to find a book which is more helpful to the general practitioner in pointing out a technic in treatment, and in securing material for diagnosis.

PRACTICAL PSYCHOLOGY AND PSYCHIATRY

For Use in Training Schools for Attendants and Nurses in Medical Classes and as a Ready Reference for the Practitioner. By C. B. Burr, M.D., Fifth Edition, Revised and Enlarged; with Illustrations. F. A. Davis Company, Publishers, 1921. Price \$2.00 Net.

This volume of 269 pages is intended for the use of nurses entrusted with the care of those of unsound mind. The first chapter is devoted to the consideration of definitions of terms used in psychology and their significance. Then comes a chapter on the symbolism in sanity and insanity. The treatment of insanity and the prevention of insanity. This is a helpful text for those caring for insanity in capacity of a nurse and for physicians who are called upon to treat those of unsound mind.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Third Series, Volume Forty-first.

The volume for 1919 contains a number of classic papers on conditions which grew out of the war, in which so many members participated, particularly relating to ophthalmology and otology. The Weir Mitchel Oration delivered at the College of Physicians by Dr. Charles W. Burr is of particular interest. In this oration may be found an analysis of the scientific and literary work of one of the most distinguished physicians this country has produced. The proceedings of the section on industrial medicine and public health are of interest because of the care exercised in preparing the discussions.

THE MEDICAL CLINICS OF NORTH AMERICA

March, 1921. (New York Number.) W. B. Saunders Company. Price \$12.00 Per Year.

This number is made up of distinguished clinicians of New York City, one of the subjects we may especially notice is the Endocrines in Common Medical Diseases, by Dr. A. S. Blamgarten; another is the Clinical Value of Basal Metabolism, by Drs. Mosen-thal and Marks. We may add: Diseases of the Coronary Arteries, by Dr. Harold E. B. Pardee. Other clinics are of interest, but this number is not of equal interest with the Philadelphia number. Internal medicine in New York has apparently fallen behind, compared with several other large cities.

THE MEDICAL CLINICS OF NORTH AMERICA

January, 1921, Philadelphia Number. W. B. Saunders Company, Philadelphia and London. Price Per Year, \$16.00.

The first clinic is by Dr. Alfred Stengel at the University Hospital on the treatment of lobar pneumonia and influenza pneumonia with the use of serum and blood of convalescent patients. This is an interesting subject to physicians who are looking for a better treatment than we yet command. Dr. Thomas McCrae offers some valuable observations on pain in the lower back.

In noting certain clinics which are of special interests we may mention Dr. J. P. Crozer Griffith on Types of Anemia as Seen in Early Life, and Problems in Diseases of the Internal Secretions, by F. X. Dercum; also the necessity for and the importance of "Routine Procedures in Clinical Medicine," by Dr. E. J. G. Beardsley.

Gastric Dysfunction in Cases of Internal Secretory Disturbances, by Dr. Truman G. Schnabel, is an interesting title and worthy of serious considerations. Pernicious Anemia, is always an interesting subject and is presented by two clinics; one by Dr. Joseph Sailer and by Dr. Henry K. Mohler.

THE MODERN METHOD OF FEEDING INFANTS

Modern infant feeding calls for a formula suited to the requirements of the individual baby. The physician now realizes that an infant deprived of breast milk must be fed as an individual. The nourishment from the infant's food is principally derived from cow's milk. The "foods" contain no mysterious life-giving elements but are used as modifiers. As such they are indispensable for their carbohydrate content, the added carbohydrate being necessary to make up for the loss of carbohydrate when cow's milk is diluted with water. It is also important that these "foods" are given as carbohydrates and should not contain a mixture of vegetable protein and fat,

since the cow's milk supplies animal protein and fat in proportion suitable for the growth of most babies.

Infant feeding should be directly under the control of the physician. Realizing this important fact, Mead Johnson & Company of Evansville, Indiana, have manufactured a line of infant diet materials suitable for the requirements of the individual baby. These products do not carry laity directions on the trade packages. Such directions on a package of food is the unsurmountable wall that differentiates between individual infant feeding and indiscriminate infant feeding.

Mead's line of infant diet materials consist of Mead's Dextri-Maltose (Dextrins and Maltose), barley flour, dry malt soup stock, casec (calcium caseinate—for preparing protein milk), arrowroot flour and cerena, all of which are supplied without any directions on the packages.

Interesting publications on infant feeding, prepared by Mead Johnson Company can be obtained upon request.

NEW AND NON-OFFICIAL REMEDIES

In addition to the articles enumerated in our letter of July 1, the following articles were accepted during June:

Lederle Antitoxin Laboratories:

Pollen Antigen—Lederle (Ragweed).

Pollen Antigen—Lederle (Timothy).

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official.

The Abbott Laboratories:

Argyn.

Hoffman La Roche Chemical Works:

Papaverine Sulphate Tablets—Roche.

Nonproprietary Articles:

Casein.

"Aspirin Bayer" and the Sterling Products Co.

Shortly after the United States entered the war, the alien property custodian took over the property of Bayer and Co., Inc. The Sterling Products Co. acquired the pharmaceutical end of the Bayer concern. After that the Winthrop Chemical Co. was incorporated and seemingly secured control of all the Bayer pharmaceutical specialties, except "Aspirin." The Bayer Co., it was announced had been merged with the Sterling Products Co., and "Aspirin-Bayer" added to the latter firm's list of "patent medicines" Cascarets, Danderine, Papes Diapepsin, California Syrup of Figs, Neuralgine and Dodson's Livertone. Just what relationship exists between the Winthrop Chemical Co., and the Sterling Products Co., we do not know; the "Bayer Cross" is used on the label of the Winthrop products. As the court has ruled that on prescriptions calling for "Aspirin" the Bayer product must be dispensed, physicians should prescribe acetylsalicylic acid and not "Aspirin" (Jour. A. M. A., June 11, 1921, p. 1697).

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No. 10

THE MAKING OF A DIAGNOSIS*

WILLIAM E. SANDERS, M.D., Des Moines

If diagnosis is entitled to the distinction of an art, then the principles of its practice consists in the application of the accumulated knowledge of clinical observation and experience to new conditions, based upon the uniformity of law and order in the universe.

That this uniformity of law and order in nature extends to the human body in disease there can be no doubt.

Nevertheless, such intangible factors as constitution, temperament, idiosyncrasy, resistance, susceptibility, virulence, infectivity, *etcetera*; which enter more or less constantly into diseased processes, and lie so largely without the range of our usual clinical demonstrations, often make it impossible to know in a given instance whether it is entirely comparable with cases of its class, and hence lend a considerable factor of unavoidable error to our art.

One of the chief reasons for this is that in the past we have concerned ourselves with names rather than conditions, and sought to hypothecate disease into definite nosologic groups, characterized by a fixed symptomatic assemblage, rather than to visualize it as a process in which the symptoms are nothing more nor less than suspended, augmented or decreased physiologic functions.

The observation, elicitation and assembling of these perverted functions which we call symptoms is the aim of our clinical procedures, and the truth deduced from them the end of our diagnostic undertakings.

In the execution of his art, the diagnostician should possess a full measure of physical and mental vigor, sufficient curiosity to inspire inquiry, a strong imagination tempered with judicial balance, and above all a mind sufficiently trained in the logic of the sciences to distinguish

between a fact and a truth, and should have, as Dickens says, "a heart that never hardens, a temper that never tires, and a hand that never hurts." He should not be subject to the intellectual languor of fatigue, nor yet the inertia of indolence. He should approach his diagnostic problem with deliberation and an open mind, and apply to it the methods demanded for research in other fields.

Among these may be mentioned, first—accurate observation and experimentation. Second—critical sifting and systematic classification. Third—logical thinking. The first of these concerns the perception of facts, the second the judgment of facts, and third the deduction of truths from facts.

In the application of this method to the specific task of diagnosis it is at once evident that the investigator must not only be able to see the obvious but to elicit as well the occult.

For the proper appreciation and appraisal of the facts which he assembles, he must be thoroughly grounded in topographic and visceral anatomy, familiar with modern physiology, physiologic chemistry, cytology, bacteriology and the modern clinical biologic reactions, and understand as well, the more common revelations of such instruments as the cystoscope, ophthalmoscope, perimeter, polygraph, electrocardiograph and the x-ray.

He need not, and indeed can not, apply all of these himself, but he should possess sufficient knowledge of their common findings to estimate them at their just value and judge them in their proper relationships in the final summary of his clinical analysis.

While it cannot be denied that the results achieved by many of these methods are pathognomonic of certain diseases, yet the end sought by their enlistment is clinical facts rather than diagnostic truths.

In the correlation of these facts, the well trained internist will, in the future, find the chief field of his activities, for herein lies his strength as contrasted with that of the more exclusive

*Address Chairman Section on Medicine, Sixty-Ninth Annual Session, Iowa State Medical Society, May 12, 13, 14, 1920. Des Moines, Iowa.

specialist. Moreover, it must never be forgotten, that the patient is not at all infrequently polypathic.

Because of his better acquaintance with the methods of the natural and biologic sciences, and his better training in the orderly interrogation of the functions of the different systems and organs of the body, the modern student will greatly excel his older confrere in the observation and elicitation of clinical facts, and will by the same token, attain with experience a diagnostic ability of a very superior order.

But as no amount of skill in the elucidation of clinical facts can compensate him for the judgment the experienced clinician has acquired in their sifting and appraisal, so no amount of study by the erstwhile erudite clinician can make intelligible to him the perplexing intricacies of modern methods unless he hark back to the study of the principles of modern science and fortify himself anew by a thorough grounding in modern physiology, pathology and bacteriology.

Unless he is willing to do this the instability of his whole superstructure will reveal itself, not alone in the clinical arena, but in the disputations of the cathedra as well, and Plutus like, lame and blind, he will approach his diagnostic endeavors.

In the making of a diagnosis, the securing of the clinical history is of great importance, for it not infrequently supplies the most important facts for deductions. Here the testamentary capacity of the witness, whether he be patient or friend, demands careful consideration, for it has been shown to be psychologically impossible for even the most cautious and intelligent to state with absolute truth the facts of sense perception.

Inasmuch as this history consists largely of the subjective sensations of a patient who may be already mentally debilitated by disease, and whose sensations are more or less influenced by the introspection of depressed emotional states, or else the statements of those who, bound by the ties of blood or friendship are so warped in judgment, as to lend artificial color to the facts which they observe, it is therefore necessary that they be appraised with caution or await the palladium of some more objective sign.

At the introduction into the council chamber it is well for the physician to recall that he has to deal with an individual, rather than a case, and in many instances of timid or nervous patients without the sacrifice of his dignity mollify somewhat the formalities of his approach.

The *esprit des rencontre* furnishes the *entre* into the patient's confidence and greatly facilitates

the securing of the facts desired. I not infrequently open the seance by asking; "How long is it since you were perfectly well?" The answer to this question is often quite different if put in the form; "How long have you been sick?"

It not only furnishes valuable evidence which may be further checked in the questionings regarding the present illness, but often affords an opportunity to judge of the intelligence, education and emotional bias of the patient, as well as the sincerity and validity of his claims.

It likewise furnishes a ready egress from the embarrassment of the witness chair wherein many patients as well as expert witnesses, are given to statements which they must later qualify.

One may then proceed to the taking of the clinical history, a task which, I am sure the physician who has at heart the best possible understanding of his patient, will perform himself, rather than delegate it to a subaltern.

With increasing experience in the functional neuro and psychoses, I have become more and more convinced that insults to the affective life plays a most important etiologic role. These reveal themselves always as elements of self pity and manifest themselves toward those for whom are naturally entertained the tenderest sentiments.

The sensing of these factors in the anamnesis requires unusual intuition and their elicitation much tact. These feeling tones are so intimately associated with certain connate biologic instincts that the cultured mind yields them with great reluctance.

They can rarely be secured except in private, and then require so large a measure of respect and confidence that it is rarely found except in the capacity of family physician or confessor with whom a frank discussion not infrequently leads to their expurgation.

In the making of the physical examination it is important to proceed with order and deliberation. This may be either regional or systemic.

The former is the less time consuming but until one gains experience in discriminative judgment of the facts brought out, it is better to proceed to the examination of each system of the body more or less independently, since by this means, the associated systemic symptoms assume in the mind a closer grouping and bolder relief.

In the examination of the chest one may well pursue the former, and of the nervous system the latter method.

The order of the procedure is not so important so it is methodical and the individual worker soon develops a plan more or less his own.

It is well to complete the record of one method, for example that of percussion or auscultation, before taking up another, for the end sought is the independent elicitation of facts rather than the confirmation of suspicion, and by this means the unconscious suggestion of the findings by one method is more remotely removed from that of another, and hence given more independent consideration.

When the examination concerns bisymmetric organs, the findings in the corresponding parts must be constantly compared, keeping in mind slight topographic, anatomic and physiologic differences, and moreover, both with an imaginary norma.

The psychic difficulty of the vivid recall of this idealized norma, especially in the presence of very attenuated differences of the two organs, is one of the most difficult accomplishments in physical diagnosis, and has not infrequently resulted in the mistaking of the diseased for the sound side.

In the examination of the chest I prefer to carry out inspection, first, with the patient reclining, observed from the foot of the couch, then laterally, then with the patient sitting, from in front, and then from behind and above.

Inspection carried out in this way I believe to be one of the most important methods of examination, and will in the presence of good light, reveal almost every gross intrathoracic lesion.

A good plan for the carrying out of palpation is to begin with the axillary and cervical lymph glands, and then proceed to palpitory percussion of the supraclavicular apices, using the finger tips, then with the extended palm palpate the mammary glands and precordium, after which the tactile fremitus may be elicited, always comparing corresponding areas of the two sides.

By this maneuver one has gained a knowledge of the lymph system, and may infer the condition of the mediastinal and bronchial glands; has fixed the upper limit of the apices; excluded the presence of mammary growths; determined the presence or absence of a cardiac thrill; fixed the point of maximum impulse; and differentiated, if present, plural fluids from pulmonic consolidations.

Percussion I prefer to begin at the third right intercostal space in the mammary line, and pass downward until the upper border of hepatic dullness in expiration is encountered, then in deep inspiration note its shifting.

The lower margin of the liver is determined by palpatory percussion, then the line of absolute dullness of the liver and heart marked out, not-

ing the cardiohepatic angle. The determination of the relative dullness of the deep lying organs by percussion is an art in which I confess great weakness. This procedure so far furnishes valuable information regarding the height of the diaphragm, the presence or absence of right sided firm pleural adhesions, the size and consistency of the liver, and has determined with reasonable certainty such cardiac conditions as pericardial effusions of large extent or marked hypertrophy or dilatation.

One may next map out the relative width of the suprascapular pulmonary resonance, and then proceed to the percussion of the lungs, always comparing the two sided.

The systemic method of examination of the nervous system is so time consuming and exacting to both patient and physician, that it can scarcely be carried out at a single seance. It will include the simpler tests of the special senses, the motor sensory and secretory functions of the cranial nerves, the motor, sensory, pain, temperature, touch and position sense of the nerves of the spinal segments—the condition of the reflexes, the tonus states of the neuro-muscular apparatus, the evidences of trophic, œdematous, erythematous, and herpetiform lesions of neural origin, the sphincter innervation both spinal and sympathetic, disturbances of vagosympathetic balance as revealed by such functions as pupillary movements, salivary secretion, bronchial secretion or spasm, thyroid disturbances, heart pace, secretory or spastic conditions of the alimentary canal, disturbances of the uro-genital function, the tonus condition of the circulatory system, the circulatory, pilomotor, and secretory conditions of the cutaneous system, lymphocytosis evincing vagotonia, tremors, ataxias and muscular fibrillations, the secretory and absorptive powers of the leptomeninges, the tension of, as well as the cytology, bacteriology and biochemical reactions of the spinal fluid, the galvanic faradic and pharmacologic tests, the x-ray findings, and finally the condition of the psyche as revealed by the conative, affective and reasoning faculties of the mind. One may then endeavor to determine if the condition found is due to a neurone or supporting frame work vice, and if the former, whether a cell body or fiber condition, bearing in mind that the former is exhaustible and the latter not, and eventually which of the functions common to nervous tissue, such as nutrition, reproduction, fatigueability, sensibility or conductivity is at fault.

In like manner one may take up the locomotor, cutaneous, digestive, respiratory, circulatory, uro-

genital, chromaffine, and hemopoetic systems, and the glands of internal secretion.

While the systemic method of examination will entail considerable repetition, it will prevent many oversights, for herein we seek a systematic study of the functional condition of every organ of the body and note the presence and extent of any physiologic perversions.

For the elicitation of fine shades of disturbances, we not infrequently resort to pharmacologic agents, test diets, provocatory measures, graduated exercises, and tests for functional efficiency.

With the completion of the clinical, laboratory, and special examinations, the facts have been secured upon which to base the diagnostic deductions.

The protocol of the findings should be couched in descriptive and not in conclusive terms. In many instances the diagnosis will already have been made, but in difficult and complicated cases it is well to withhold a decision until the entire findings are carefully reviewed.

While the assembling of clinical facts calls for keen observation, their sifting, classification, and appraisal, demands a judicial and analytic type of mind, which, while it may be cultivated, is like the aesthetic sense, usually inherent.

The former requires a *tactus eruditus*, and the latter a *mentis eruditus*. The whole clinical assemblage must be passed in mental review, symptomatically grouped, and each fact assigned its proper value and position in the syndrome to which it belongs. Pathognomonic signs occupy the foreground in the clinical perspective; next to these the more prominent symptoms, with those of lesser magnitude, grading away insensibly to the vanishing point.

Among these objective signs should outrank subjective ones, and those of insignificant value or doubtful existence, like the appoggiatura of a musical symphony, are beautiful, artistic decorations, but non-essential to the harmony.

Exceedingly fine distinctions brought out by provocatory measures, and those designated as, "a suggestion of," had better be totally disregarded, just as undemonstrable facts should be considered non-existent. They are often purely the creations of fancy or prejudice and accordingly misleading.

In the diagnostic deductions from the facts assembled, the problem may be approached from

its etiologic, patho-anatomic and patho-physiologic standpoint. The latter has given rise to a "tonus" and "ism" nosologic nomenclature, such as, hypo and hyper genitalism, pituitarism, thyroidism, splenism, vago-sympathetico- and vaso-tonias, et cetera; in which disease is predicated of a purely functional complex. With equal justice such terminology might be applied to the lympho and hematogenous organs, and in fact many others whose pathology are not well understood. They are convenient functional terms but fail to reveal to us the anatomic changes which lie behind them.

Unfortunately, they convey to us only an idea of some special activity, such as secretion or tonus, of the structure to which they are applied, and fail to deal with the more common cellular functions, such as nutrition, irritability, growth, reproduction, senescence and decay.

If the time ever comes when the internal functions of the cells of the organs of the body are as well understood by the physiologist-clinician as their internal structures are by the pathologist-clinician, then will physiologic diagnosis take rank with pathologic diagnosis, and give us, indeed, the golden age of clinical medicine.

Where the morbid anatomist now speaks of degenerations, such as albuminous, fatty, hyaline, mucoid, colloid, and amyloid; of the trophies such as, atrophy and hypertrophy; of the plasias, such as, apalasia, hypoplasia, hyperplasias and regenerations, the morbid physiologist may then speak in comparable terms of the corresponding functional disturbances of nutrition, growth and regeneration, and both will understand thereby that back of the manifest lies hidden those physio-chemical changes which we call vital, and which must forever, doubtless escape our ken.

But in conclusion, laying aside the fallibility of human knowledge, the incompleteness of our clinical facts, ascertained or demonstrable, will often make our diagnoses incomplete or impossible, just as apparent rather than real truths may be deduced when the facts upon which they are based are only partial.

But let us study "to show ourselves approved of God, a workman that needeth not to be ashamed, rightly dividing the word of truth," for there is that within us that rises all unbidden to the voice of intellectual truth, just as conscience answers to the call of moral truth and duty.

THE X-RAY IN THE DIAGNOSIS AND MANAGEMENT OF FRACTURES*

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The diagnosis and management of fractures probably concerns the medical profession as much as any other one thing in medicine. Alleged failure to diagnose fracture has been the starting point of a large number of damage suits against physicians and surgeons.

The subject has been so thoroughly covered in the literature that apparently there is very little left for one to add. It is not the intention, however, at this time, to present anything new; but it is well to emphasize some of the more or less minor points in the diagnosis and management of fractures, upon which is hinged the prognosis.

Unquestionably the x-ray is the greatest aid in the diagnosis of fractures. (Medico legal). To know that a bone is fractured is not sufficient. It is necessary to know the type of fracture, and the number and derangement of the bone fragments.

The failure in diagnosis of fracture by methods other than the assistance of the x-ray, based on experience, has proven beyond any doubt, that any patient should have an x-ray examination, if complaining of distress with an injury of any description, regardless of the apparent severity.

Practically all fractures can be grouped in types. (Dr. Cotton, A. J., of R., Vol. VI, No. X, Oct., 1919, p. 496.)

"The familiar commoner types may be mentioned as Colles' Pott's fracture of the shaft of the bone, fracture of the surgical neck of the humerus, fracture of the olecranon, 'T' fracture of the elbow and knee, fracture of the neck of the femur.

"Knowledge of fractures was first obtained from clinical observation and anatomical dissections, and later by open operation. Finally, the x-ray was discovered to aid us in our knowledge, and to show the error of our previous conceptions of fractures. It is now known, for example, that fractures of the carpal and tarsal bones are not uncommon. Many so-called sprains are shown to be fractures, e. g., impacted fractures of the neck of the femur, fracture of the head of the radius, fracture of the greater tuberosity of the humerus, linear fracture of the bones near large joints."

FRACTURES: If a bone is fractured, usually the ends of the bone are more or less displaced, fragments of the bone may lie loose in the tissue, there is usually more or less stripping of the periosteum, with damage of adjacent soft parts, and some hæmorrhage. After a sufficient time a fusiform mass (the "callus") is formed about the fractured ends, and persists for a much longer time.

Experimental fracture (drill-hole): As a result of the injury, hæmorrhage occurs, followed in a few hours by more or less exudate of leucocytes, serum, and fibrin.

By the second day proliferation of connective tissue and of the endothelium of blood vessels begins. This proliferation of connective tissue occurs external and internal to the cortex of the bone. The external proliferation arises from the periosteum, and results in the formation of a spindle shaped mass of connective tissue, in which are young blood vessels derived from neighboring blood vessels, about the injured joint (early "external callus"). The internal proliferation arises from the connective tissue of the marrow, which lies next to the cortex of the bone (endosteum), and so appears as a mass of young connective tissue about the edges of the drill hole ("myelogenous callus") and, if the injury has been sufficiently deep, from the endosteum of the bone opposite the drill hole. At this period remnants of exudate persist. Fragments of necrotic cortical bone carried in by the drill may be seen.

By the fourth day a homogeneous intercellular substance ("osteoid tissue") appears between many of the granulation tissue cells of the internal callus. In this osteoid tissue at a later period, lime salts are deposited, i. e., it represents the earliest outline of new born trabeculæ. In this homogeneous material are included some of the connective tissue cells which later are to become "bone corpuscles." Certain connective tissue cells at the periphery of these new trabeculæ deposit successive layers of osteoid tissue, i. e., act as "osteoblasts."

Formation of osteoid tissue also takes place in the external layer of granulation tissue of the external callus.

By the end of the week the exudate has nearly disappeared. Trabeculæ are well developed both in external and internal connective tissue. The spaces between the trabeculæ are filled with young connective tissue cells and young blood vessels. Many osteoblasts lie about the trabeculæ and osteoclasts appear. The external callus covers in the wound produced by the drill. The in-

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ternal callus may partly or completely fill the medullary canal at the point of injury. The cortical end of the bone takes no part in the proliferative process, but the hole in the cortex becomes filled with granulation tissues which extend from the external callus inwards, and from the internal callus outwards.

At the end of about four weeks both external and internal callus are composed entirely of newly formed trabeculae, and the mass of fibrous tissue which filled the drill-hole is converted into young bones and unites the separated cortical ends. The young trabeculae, as a rule, lie at right angles to the original shaft. Many osteoblasts are seen lying close to the trabeculae.

Ultimately the external callus is absorbed and largely disappears. The internal callus also may be absorbed, and the marrow canal restored. The trabeculae between the separated cortical end remain, become closely attached to the separated cortical ends and restore the line of the cortex, and repair is completed. In time the trabeculae rearrange themselves, so as to lie parallel with the line of cortical bone.

GENERAL CONSIDERATIONS: A fractured bone may unite in what may be considered normal time; the time for union may be greatly increased, or complete bony union may never occur. We have, therefore, from the point of time: 1. Normal union. 2. Delayed union. 3. Non-union.

Delayed union and non-union may be due to:

I. General causes—1. Nervous diseases, such as tabes dorsalis, and general paresis. 2. Constitutional disorders, such as gout, diabetes, osteomalacia, chronic nephritis. 3. General infections—(a). Erysipelas, measles, scarlet fever, typhoid fever, etc. (b). Syphilis. 4. Old age. 5. Starvation, insufficient nutrition; scurvy. 6. Anæmia—(a). Severe hemorrhage. (b). Pernicious anæmia. (c). Grave secondary anæmia.

II. Local causes—1. Mechanical interference with fracture union. (a) Separate displacement of the fragments. (b) Interposition of soft tissues between the fragments. (c) incomplete immobilization after reduction of fracture.

2. Deficient blood supply—(a) Injuries to the nutrient artery of the affected bone. (b) Severe trauma to soft tissues adjacent to fracture. (c) Severe trauma to bone of periosteum, causing a partial or complete loss of continuity. 3. Bone lesions—(a) Osteomyelitis-necrosis. (b) Tumors—primary or secondary—in which pathologi-

cal fractures have occurred. 4. Infection of the soft tissues. 5. Nerve injury.

One very important fact is that an anterior-posterior and lateral must be made of every fracture.

The reduction of a fracture may be perfect in one view, while showing a very marked deformity in a second. All bones that cannot be rayed in two directions must be stereoscoped, which will show the approximate displacement.

With the present day equipment the reduction of a fracture under fluoroscope is unquestionably the satisfactory method of procedure.

Bones that are fractured will unite, in a large percentage of cases, whether the reduction is perfect or not, as will be shown in the slides. Many fractures unite and give a perfect functional result, while the roentgenogram shows a very imperfect anatomical reduction.

The essential in the diagnosis and management of fractures is not obtaining the plate before the reduction. It is absolutely necessary in all cases of fracture to insist on having an anterior-posterior and lateral view before stating that the fracture has been reduced.

Slides

1. Slide one shows an epiphyseal separation of the lower end of the femur.

2. Slide two shows same case reduced with splint applied.

3. Slide three, same case six weeks after the injury, showing a complete reduction with perfect alignment.

4. Slide four, same case eight weeks following injury with leg completely flexed, function of the knee joint perfect.

5. Slide five, fracture of the lower end of the humerus with lateral dislocation of the forearm. The line drawn through the long axis of the humerus shows the amount of displacement.

6. Slide six, same case reduced.

7. Slide seven, similar fracture improperly reduced.

8. Slide eight, the lines drawn through the long axis of the fragments shows the improper alignment of the fragments with the arm dressed at right angles.

9. Slide nine, similar case.

10. Slide ten, showing similar case properly reduced, arm completely flexed.

11. Slide eleven, anterior-posterior showing fragments in perfect alignment.

12. Slide twelve, line drawn through fragments showing complete reduction.

13. Slide thirteen shows a fracture in the head of the humerus, which was treated about ten days for a sprained shoulder.

14. Slide fourteen shows fibrous union of fracture of humerus, with false joint due to lack of fixation.

15. Slide fifteen shows a very unusual case—fracture of the cuboid and a dislocation of the astragalus and scaphoid articulation.

16. Slide sixteen shows a fracture dislocation of the sacro-iliac joint and os pubis.

17. Slide seventeen is a pathological fracture. This fracture followed a small round cell sarcoma at the upper end of the humerus.

18. Slide eighteen is same case to show the complete regeneration of bone tissue, with a perfect alignment of the shaft. It is interesting to note the perfect results in this case. No attempt was made to splint the humerus, however, the patient was unable to move the arm, keeping it in one position, which was in extension downwards from the shoulder.

19. Same case as figure 18.

20. Fracture of tip of astragalus.

21. Longitudinal fracture of the tibia.

22. Slide twenty-two shows a fracture of the descending ramus of the right and left os pubis, and through the right and left acetabulum.

23. Slide twenty-three shows a shell fracture (May 4, 1917) in the middle third of the arm, with about twenty fragments of bone.

24. Same case (August 2, 1917) showing considerable bone formation.

25. (August 31, 1917) showing considerable bone formation.

25. (August 31, 1917) showing further evidence of osseous union.

26. December 7, 1917) showing a fair amount of callus, with union of the fragments.

27. (March 4, 1918) shows union of the fracture.

28. (July 17, 1918) showing strong union with a very little excessive callus formation, with a very good alignment of the fragments.

29. Incomplete fracture of the olecranon.

30. Incomplete fracture of the os calcis.

31. Fracture of the femur. Note perfect alignment and small amount of shortening.

32. Fracture of radius.

Discussion

Dr. Herbert M. Decker, Davenport—Mr. Dutcher started out on his fracture question by telling you of the importance of knowing what you are dealing with and what your probable outcome is going to be. In this day and age, with over 1,000 x-ray machines in the State of Iowa, it would seem that hardly anybody is deprived of the benefit of x-ray examination. It is not so important to have an x-ray plate before

reduction as it is to take your plate after reduction to find out what you have accomplished. Those of you who have handled many fractures know that you have apparently gotten beautiful results inside of badly swollen tissue, and your x-ray has shown quite a marked displacement in one or the other of the positions. This is not always shown in the one view, but the two views will point out the entire disposition of the fragments, and after you have ascertained this you can pretty nearly tell your patient the kind of a result he is going to get provided he takes care of himself. The one plate which Dr. Allen showed of the badly comminuted fracture, illustrates what bone will do if you give it a chance. These badly comminuted fractures, gunshot wounds, horribly infected and with tremendous damage, under the rules and regulations of the A. E. F. we were not allowed to operate upon except for extreme emergencies, and the cases as a rule recovered. If they had been operated upon indiscriminately the chances are they would not have gotten well. You can follow the progress of healing with the x-ray as you could not do in any other way. After you have lined up the bone your patient comes back to you and it is out of line, it is angulated, you have a callus there which feels pretty firm, and you throw up your hands and say, there is nothing to do but re-break it. Now, is that always true? The orthopedic service tells us that if the callus has not become firm you can bend it; without submitting your patient to the severe procedure of re-fracturing, by traction and pressure you can bend it over where it belongs. Now, you can determine fairly well with the x-ray if properly executed whether the callus has become dense enough to resist traction and pressure. The main purpose of a paper of this kind is, it seems to me, to bring to your attention the fact that the x-ray is available and that it will tell you what you have and what result you may reasonably expect to get so that you can prepare yourself and your patient for whatever is necessary. Having so many good laboratories available now, nobody should ever handle a fracture case without thorough x-ray investigation probably before and certainly after reduction of the fracture.

Dr. J. W. Rowntree, Waterloo—One of the most difficult conditions a general surgeon has to deal with is reducing a fracture that requires extension. A fracture at the middle of the femur or tibia or fibula, is very difficult to hold in place. If in difficult cases you have not tried reducing the fracture and producing extension under the fluoroscope, I would advise you to try it. In Colles' fracture we know that clinically the cases that do not do well are largely those that are impacted, they subsequently become the painful wrist, and they travel from doctor to doctor seeking relief. It is important to anesthetize these cases before attempting to do anything. In impacted fracture of the shoulder and hip it is best to leave them alone.

WHAT THE WAR HAS TAUGHT US IN
THE TREATMENT OF FRACTURES*

FRANCIS R. HOLBROOK, M.D., Des Moines

Mr. Chairman and Members of the State Society:

What I have to say about the treatment of fractures is not particularly new to a great many of you who, like myself and many others, have had experience in the recent conflict. Therefore I am going to place before you as briefly and concisely as possible the generally accepted standards of treatment as existing today.

As you all know, our ideas on the treatment of fractures have undergone a very radical change as a result of our experience in the recent war. Our newly acquired knowledge has come after and directly as a result of observations and treatment of a greater number of fractures than has ever before been reported on in a similar space of time. At the beginning of the war our knowledge of the treatment of fractures was woefully deficient, due to the fact that very few men had had any extensive experience in fracture work and necessarily were incompetent to handle these cases. Very few surgeons had ever seen cases of such severity as those which they were called on to treat, and they were hopelessly at sea in their efforts to cope with them successfully. One can well imagine their state of mind when the avalanche of fractures began to roll in on them. These fractures were complicated by great laceration of the overlying soft parts, and the wounds thus formed were ragged, dirty, affairs, and harbored a wide variety of septic material.

In the beginning of the war the fracture cases were handled according to the methods then in vogue, which meant splinting either with wooden or metal splints or plaster of Paris. This represented the sum total of the surgeon's knowledge with reference to handling fractures. Practically all the cases were infected, and the dressing and care of these cases imposed on the surgical staff a terrific burden and on the patient an unspeakable hardship. Those men who did not die promptly were doomed in most cases to a long period of suffering with the ultimate prospect of a more or less stiff and useless limb. All that could be done was to splint the fracture and treat the infection. This was generally a long-drawn procedure, and by the time bony union was sufficiently firm to permit of discarding the splints, the tissues were wasted and the joints ankylosed to an extent that precluded the possibility of restoring a normal range of motion. The speaker

recalls with a great deal of clarity even at this remote date the state of affairs that confronted him at the time he first became identified with surgical work in this war. This was in the summer of 1915, and the scene of his activities was in a casualty clearing station on the Flanders front attached to the Belgian army. Our hospital received the worst cases from that section of the line and the fractures that we had to deal with were the same as those handled by other front line surgeons, the most severe forms imaginable. Our treatment then consisted of simply handling these things the best we could, cleaning out the wounds, putting in voluminous dressings, putting on a long Hamilton or Liston side splint and putting the patients to bed. The following day the dressings began. In a few days every one of these cases had a pus poultice on in the way of a dressing. The amount of time and surgery consumed in dressing these cases was enormous, about one hour being required in each case, at the conclusion of which all hands including the patient were thoroughly exhausted and it was questionable whether the first or the last condition of the patient was the worst.

The foregoing was the condition of affairs that existed pretty well into the second year of the war, when the alarmingly bad results of fracture treatment were so evident that it was realized on all sides that an improvement in technic would have to be had. At this time the mortality from compound fractures of the femur was, in the neighborhood of 80 per cent. (Sir Robert Jones.)

As we said a few moments ago, at the outset of the war immobilization by fixation was the cardinal principle in treating fractures. In order to secure complete immobilization the joints on both sides of the fracture had to be included in the fixation apparatus. The limbs and the body at times when deemed necessary, were encased in plaster of Paris. Windows were cut in these to permit access to the wounds in order to dress them. With the development of infection, swelling occurred, and immediately the cast became too tight and this necessitated slitting the cast or removing it entirely, and if this were not done sufficiently promptly gangrene was the inevitable result and death itself was not unusual. In other instances pressure sores occurred from a badly applied cast, filth gained entrance beneath the cast and infection was set up. If the case remained clean, it was only a question of time when atrophy of the tissues from disuse made in the cast such a loose fit that it no longer served its purpose.

From the standpoint of end-results, what was

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the outcome of all this effort? As to bony union, in the hands of the best surgeons, generally speaking, the results were fair, but practically always with shortening to a greater or less extent. But what about function? This was practically in all cases a lamentable failure, with the tissues wasted and the joints ankylosed. This was the result as to function, and reports from some of the best clinics in Europe at the conclusion of the first year of the war showed that less than two per cent of the men who had sustained compound fractures of the femur were fit to be returned to any kind of duty at all, verily a gloomy picture from the standpoint of efficient surgical treatment.

Improvement in results began to be manifest as soon as the old method of treatment was discarded and a new one adopted which had for its basis newer and more logical ideas. Whereas, the old form of treatment was consecrated to the principle of fixation, the new treatment had for its underlying principle the preservation of function, and this was the turning point in the whole situation. Preservation of function became the watchword in all lines of surgical work. It was the speaker's privilege to be associated for a period of about eight months, through the trying days of 1915-16, with Dr. Willems, who later on originated the Willems method of treating infected joints and which completely revolutionized joint surgery. It was on that one principle, the preservation of function, that Willems based and developed his treatment—and by it was attained what could almost be claimed an ideal treatment.

The new plan of treatment had for its main foundation the mechanical principle of traction. It can be laid down as axiomatic that if traction be applied to a broken bone in the line of the proximal fragment when the bone is at rest, no harmful angulation at the site of fracture will occur. By the position of rest we mean that position occupied by the bone when no external forces are acting on it other than those produced by the muscles to the bone itself. A very inconsiderable amount of external force is sufficient to materially influence this position. Given a slight external restraining force, and a moderate amount of motion can be made in the joints contiguous to the fragments without affecting the position of those fragments. When traction is made on the bone the force of the stretched muscles is usually sufficient to maintain the fragments in their proper position, and with traction properly directed, motion can be made in the contiguous joints without altering the position of the fragments. Traction overcomes the tendency to over-

lapping and consequently to shortening. As long as traction is made in the proper direction, any angulation which may occur at the site of fracture in the early days of the treatment is harmless and the beginning bony union in the fragments can usually be relied upon to supply sufficient restraining force to maintain the relative position of the fragments. That is what traction does. It accomplishes reduction of the fracture, maintains the position, and permits of motion in the joints.

One other point. We have seen that if traction be not continued in the line of the axis of the proximal fragment when the parts are at rest, angulation at the site of fracture will occur. Now, this cannot be overcome by fixation unless the fixation be complete, and this means including the adjacent joints in the fixation apparatus. Fixation on one side, only increases the danger, but if we allow freedom of play on both sides so that the parts of one side are at perfect liberty to participate in the motions of the other side, then the danger is completely eliminated. Traction should be made on the distal fragment, at the farthest point possible from the seat of fracture. This was accomplished by suspension, and constitutes the second point in the newer treatment of fractures. Always bear in mind that the traction should be made directly to the distal fragment when possible and never through a joint, as the latter immobilizes the joint and consequently vitiates the whole plan of the treatment. So much for the principles underlying the treatment.

Just a word as to the method of obtaining traction. In the early days of the war, about the only methods we had at hand for supplying traction was the old adhesive plaster method of Buck's extension. That did fairly well for a while, but there were cases where it could not be applied at all because the laceration of tissues was entirely too great. Later on other things began to suggest themselves. Various skin glues were devised, such as Sinclair's and Heussner's glue and other similar preparations. These had the advantage of being better stickers than the common adhesive plaster. So this constituted an improvement. The great thing that was sought all the time was skeletal traction, which was the ideal. But in the face of so much infection skeletal traction was a very difficult thing to bring about, but eventually it became very widely used. It started off with the old Steinman pin or nail. This had many disadvantages, but later it was modified by various men until finally the caliper tongs were evolved and this proved to be the most advantageous manner of obtaining traction by direct appli-

cation to the bone. These gripped the bone tightly, but did not penetrate the compact layer of the bone, were easily removed, and made perfect skeletal traction. Any method at all that could be devised for hooking on a bone was used, such as Finuechietto's stirrup, which hooked over the os calcis and traction was made from there. However, in that case traction was made through a joint and this was not as efficient as direct traction through the distal fragment. All forms of internal fixation apparatus in treating fresh fractures were abandoned. Early in the war these were very largely used, whether they were plates or screws or wires or bands—all of these internal fixation appliances had to be abandoned. If these are to be used with any success, they have to be used in the presence of a strict asepsis, and quite obviously this was a thing that could not be obtained in war surgery; not that our hospitals were not completely equipped, and not that the surgeon's appliances and operating room technic were not aseptic—that could all be obtained; but we could not get the patient's tissues aseptic.

One other point in dealing with these fractures. The pendulum swung back from the place it had occupied early in the war as to the thorough cleansing of wounds at the time of their reception or shortly after. In those days we felt that no toilet of the wound could be too thorough, and the removal of bony fragments was attended with a great deal of emphasis and a great deal of thoroughness. Later on it was discovered that many of these cases were showing delayed union and in some cases even a lack of union, and it was discovered also, that at least one cause of all this was too thorough debridement in the early days. Consequently the proper plan of procedure came to be a removal of only enough bony tissue to prevent contamination and to provide adequate drainage. The rest was left. The institution of this plan proved to be a very wise procedure and was justified by the improvement in results obtained.

Discussion

Dr. Earl D. McClean, Des Moines—I think this is a most excellent and concise discourse on the treatment of fractures as we got them over there. It was my good fortune to be assigned to British service in a British orthopedic hospital having a capacity of 750 beds where almost all our work consisted of cases in which the injury had occurred a few days to two or three years before, some of them as high as three years, but most of them about two years. There were six of us to do the work in caring for 750 patients and we were kept pretty busy. Two of us were Americans learning the "game," and four were

British who had been in the war from the beginning. There were three surgeons, and one or two of them compare favorably with the best men we have here. They were not only good students, but good operators. Those old cases, especially fractures of the femur, were coming into the hospital with overlapping and two to four inches of shortening, almost all of them were that way. They all admitted that the early treatment was very bad. The English had it to learn, we learned it from the English, consequently we received the benefit of their experience in these matters with less stress and little dissatisfaction and were able to save many limbs and lives as well by having the privilege of working with them. As Dr. Holbrook has said, the big thing is proper traction. One point brought out by him cannot be too much emphasized, and that is traction in the line of the proximal fragment. In high fracture of the femur you are going to get flexion and probably abduction. Now, suppose this is the upper fragment (indicating), if you put your traction this way it isn't going to do any good at all, you are certain to get an angulation. You may not get so much shortening, but there will be an angulation. Consequently you have to apply your traction in the direction of the long axis of the proximal fragment in high fracture, both to abduct the leg and to raise it so it will come straight ahead with the proximal fragment. If the fracture is lower down you will probably get adduction and you bring the leg down in order to have it straight with the proximal fragment. This can only be determined by frequent checking up with the x-ray. I did not hear Dr. Ruth read his paper on the use of the Thomas splint and Balkan frame, but you can take the ordinary Thomas splint and a hospital bed and do pretty well by putting blocks under the foot of the bed. The only objection is that the patient is on his head a little. In France we had about 200 to 250 fractured femurs on hand all the time, and a couple of the surgeons were in favor of the Balkan frame and some of the men had other ideas, so there was a little friendly rivalry and we were being checked up not only by the head of the hospital, but by the head of the base hospital section. In two wards we were using Balkan frames and in the other two we were not. We might here say a word about the Thomas splint. The Thomas splint needs to fit the same as a shoe or any other appliance. You cannot take ordinary Thomas splints of odd sizes and put them on a small or a large leg indiscriminately and make them work. They must fit. You want this ring so it fits the thigh and isn't jumping over the tuberosity of the ischium and running up against the perineum and setting up irritation. In regard to what we did without the Balkan frame, we put the bed up about eighteen inches and tied the end of the Thomas splint to the bed. If we had to have more abduction than the width of the bed allowed, we put a plank across the bed, bound it firmly, and hung the splint over as far as we wanted it. In that way we could get plenty of abduction. If we could

not get enough flexion of the leg and thigh we had to raise the plank more. As to the merits of the methods employed, I will say that they gave us about 50/50 on the two treatments. Some admitted that the only advantage of the Balkan frame was that the patients did not have to stand on their heads, while others said the patients enjoyed it, they would crawl about and eat and smoke and seem to have as good a time as with the Balkan frame, the weight of the body making the traction. The main thing in the treatment, whatever method is used, is to get traction in the direction of the proximal fragment, or angulation is sure to follow.

Dr. Holbrook—I had hoped that there would be considerable discussion of this subject, for I wanted to hear the views of other men who have had experience in handling fractures. The Thomas splint became the standard splint of the war. I recall quite distinctly that, in the early days of the war, everybody had a splint of his own, no two alike, and generally there was no well conceived idea as to why one was using a certain type of splint except that somebody recommended it. Out of all this junk, so to speak, crystallized the Thomas splint, which before the war was known practically only to orthopedists. It was a splint devised by an English orthopedic surgeon fifty years ago for treating tuberculous knee-joints, but it developed into the greatest splint the war knew, and by the end of the war Thomas splints were practically exclusively used both for arms and for legs. It was applicable to both limbs by modifying the ring and permitted of almost universal application. The beauty of the Thomas splint lies in the fact that it supplies in itself traction, counter-traction and immobilization—these three requisites were combined in the one splint. It was modified by various men, notably Dr. Blake, with whom I worked for several months, also by Col. Wallace, an English surgeon. But the principles were not altered, it was simply a change of detail. But the whole thing was designed to secure extension and counter-extension in one splint, which was done. The first aid and ambulance men learned how to apply the Thomas splint quite readily. It was applied over the clothing and the patient was removed from the field, sent to an evacuation hospital and across the channel to England, and many men who fell in the morning had a splint applied and the following morning were in a hospital in London without the splint being removed, having made the entire trip in perfect comfort. Any one who saw cases of fractured femur in the early days of the war would wonder at the contrast. In the early days patients frequently died of shock, but later these cases were handled admirably, the improvement in results being due to the development and intelligent use of the Thomas splint. Any one who has had extensive experience with the Thomas splint cannot, I believe, speak too loudly in its favor.

THE SPECIAL FIELD OF NEUROLOGICAL SURGERY AFTER ANOTHER INTERVAL*

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(Continued from September Number)

THE BRAIN AND ITS ENVELOPES

Tumors—I find that in the report of 1905 no mention is made of the number of cases which up to that time had been operated upon. There had been very few—twenty-nine to be exact—with no instance of a really successful tumor extirpation. The principles of decompression were under discussion and at the time it was the common practice of physicians with a brain tumor suspect—and the diagnosis was not often ventured upon—to prescribe a prolonged course of antiluetic treatment before considering an operation. It was not until two years later, be it remembered, that the Wassermann reaction was introduced, nor was it perfected by Noguchi till 1911; but even this did not entirely remove this source of delay, for as late as 1913, at the last International Medical Congress, Horsley felt impelled to urgently protest against this form of procrastination. There are other sources of delay which today must be combated but fortunately this one has been eliminated.

In the early days, though palliative measures brought temporary relief to many, actual recoveries after tumor extirpation were exceedingly few. There were many discouragements even on the side of the temporary alleviation of symptoms, for many patients were in the terminal stages, a large proportion of them blind, or so nearly so that blindness ensued despite a thorough decompression. Then, too, the conditions found at autopsy in fatal cases were such as to make it seem that if cures were ever possible they would certainly be so few and far between as to hardly justify the expenditure of such labor.

Curiously enough, looking back on this early series, the first two patients who appear to have been actually cured, if one may use this term critically, both had cerebellar gliomas, and were operated upon in 1908. One of them was a small boy of thirteen years with a gliomatous cyst twice operated upon, the last time three years later with what appears to have been a successful destruction of the cyst wall. His functional recovery was perfect. He subsequently became captain of his school football team and now,

*This address was made to do double duty before the Tri-State District Medical Society at Waterloo, Iowa, October 7, and the Cleveland Academy of Medicine, October 8, 1920.

nearly thirteen years later, is married, the father of a family, and regards himself as perfectly well. The other was a young man of twenty-eight, with a large glioma removed from the left hemisphere. Except for a slight impairment of vision in one eye on the recession of his choked disks, his recovery seems to have been complete, as may be appreciated from the contents of a recent letter sent me on the twelfth anniversary of his operation:

* * * "Being thirty-nine years old, married and with two children beside other dependents, I did not feel as though I could be spared from home and so instead of enlisting in 1917, I went with the Bartlett Hayward Company who had contracts for making shrapnel shells. My particular work was making a part of the 155 mm. shell. I had to read micrometers to the one-thousandths of an inch, and if I had had to depend on my left eye I could not have done it, for it was already affected before the tumor was removed as your old charts will show, but the other is normal and good enough for two. I was able to stand the hard work with the best of them though I had the 'flu' and pneumonia, as did lots of others. * * *

One would have thought that the initial successors would have been in extirpations of benign tumors like the endotheliomas or possibly acoustic neuromas. To be sure, the first reasonably successful operation for an acoustic neuroma—a case reported by Allan Starr—dates back nearly as far, namely to 1909, and though she remains reasonably well the degree of functional recovery is by no means perfect, for though these recess tumors are benign they present exceedingly difficult surgical problems.

Doubtless in the earlier series many endotheliomas were overlooked, for, concealed as they are apt to be between the hemispheres, with but little surface evidence of their presence, they are difficult to expose—at least I can only account for their present proportional prevalence by this assumption. It was not until 1910 shortly before the reading of my second paper, that I had my first really successful endothelioma extirpation with a perfect result, in a man who since that time has taken an active part in national affairs.

Though in 1910 there were only 180 tumor cases in the series they nevertheless were beginning to appear in increasing numbers and have now become so many as to necessitate limiting the number under observation at a given time. All told, in the Baltimore series there were 330 cases up to the Fall of 1912, and since then the series of 735 cases observed at the Brigham Hospital to September 1 brings the number well above 1000. One hundred examples of a given lesion each year provides as much material as can well

be studied, and one must check the tendency to accept more than can be digested. It was far easier to comment ten years ago on 180 cases of presumed tumor than today upon 1000.

Brain tumors are common—far more so than I believed to be the case when this same statement was made fifteen and again ten years ago. The time has come when we can no longer afford to group them together as a class any more than we can group all abdominal tumors together and make a composite report upon them which is at all worth while. We must take tumors in certain situations or, better still, tumors of certain kinds in certain situations, and give them special study. I have attempted to do this in a monograph dealing with the acoustic neuromas of which there have now been forty-five verified cases, and feel that such a group-plan is the only way really to advance the subject. I shall hope ere long to follow it with a similar report on a series of some sixty verified endotheliomas which represent a particularly interesting type of intracranial tumor.

Tumor Classification—It is an Irishism to say that other conditions sometimes resemble tumor more closely than tumor does itself. I mean by this that some of our most favorable examples of tumor are ones in which the classical symptomatic triad of headache, vomiting and choked disk is completely wanting, though all three would doubtless have appeared in time. On the other hand, many patients are admitted to the clinic with a presumptive diagnosis of tumor, of the presence of which, nevertheless, we are often extremely doubtful despite the full-blown classical phenomena.

We have come therefore to classify the cases, 1 as *tumors certified* (or verified) only when the diagnosis has been confirmed and the type of tumor identified by histological examinations of tissue secured either at operation or autopsy,⁹ 2 as *tumors uncertified* when, though not histologically confirmed, the diagnosis is unquestionable, 3 as *tumor suspects* when it is a likely diagnosis. In this last group we keep a careful list also of a variety of conditions loosely designated as *pseudo-tumor*, (though not in the meaning of Nonne), comprising states, whether so proven or not, other than tumor but which have been sent to the clinic in view of a supposed tumor syndrome. The tentative diagnosis of some of these conditions, as other than tumor, may come to be verified subsequently at operation or autopsy, but mistakes in these borderline lesions are common

9. We make one exception to this, namely, in the case of gliomatous cysts, the character of whose fluid contents in about 99% of cases serves to verify the character of the lesion.

and cases long classified as pseudo-tumor sometimes prove in the end actually to have had a tumor, just as an occasional patient with the diagnosis of "tumor uncertified" proves in the end to be other than a tumor case.¹⁰

The following greatly compressed table will show something of the numbers and give a general idea of the situation of the tumors in my complete series up to the first of September.

	Fore Brain			Pituitary including suprasellar			Hind Brain			Totals
	Certified	Uncertified	Suspects	Certified	Uncertified		Certified	Uncertified	Suspects	
Baltimore Series..	101	51	23	41	20		53	34	14	337
Boston Series.....	146	110	62	132	52		131	72	30	735
Totals	247	161	85	173	72		184	106	44	1072

It will be seen that out of 1072 cases classified in the tumor group, in 604 or about 60 per cent the nature of the tumor has been histologically verified. It would lead us too far in a general address to attempt a classification of these verified lesions or to tabulate them according to their anatomical regions, though in view of their group predominance the tumors of hypophyseal origin have been separately listed in the above table. We must concern ourselves on this occasion more with surgical than with the pathological aspects of these conditions.

To give some general idea of the more strictly operative features of the work the following figures of a consecutive twelve months of service ending September 1, 1920, have been assembled for me. Out of 182 different patients admitted with a diagnosis of presumptive or possible tumor during this period the cross reference cards show that 54 were not operated upon.¹¹

The remaining 128 cases were operated upon in the sessions with sixteen fatalities, giving an operative mortality of 10 per cent, a case mortality of 12.5 per cent, and a mortality of 15.5 per cent for the seventy-seven patients for whom a tumor extirpation, partial or complete, was at-

10. This question of tumor classification I brought before the American College of Surgeons in an address last Fall, and it is a matter which Dr. Percival Bailey has elaborated in some detail in connection with the series of cases observed during his sojourn as my assistant.

11. These may be dismissed with the explanation, first, that three patients died shortly after entering the hospital, two of them with tumor verified at autopsy; second, that 23 are recorded as cerebral or cerebellar tumor uncertified, one of these the third of the fatal unoperated cases; third, the remaining 28 cases are cross-indexed as tumor suspects and represent a great variety of conditions with such presumptive diagnoses as encephalitis, arteriosclerosis, aneurysm, cerebral syphilis, and so forth. In this group of twenty-eight there is only one case in which the lesion so far has been transferred from the tumor suspect to its proper group owing to verification of the lesion; a blind child with symptoms I had thought to be due to an infundibular tumor with hydrocephalus, but which proved to be due to a thrombosis of the superior longitudinal sinus.

tempted. Considering the gravity of many of these procedures the percentage may be considered reasonably low but it is capable, I am sure, of being reduced by one-half with earlier and more exact diagnoses.

TABLE OF OPERATIONS FOR 12 MONTHS ENDING SEPTEMBER, 1920

Character	No.	Fatalities
Forebrain:		
Subtemporal decompressions (palliative).....	20	1
Subtemporal decompressions (disclosing tumor)...	2	0
Osteoplastic exploration (cerebral).....	5	0
Osteoplastic exploration (with decompression)...	24	0
Osteoplastic exploration (with total or partial tumor removal)	24	5
Pituitary:		
Transphenoidal (partial removal of tumor)....	20	1
Osteoplastic frontal exploration.....	8	0
Osteoplastic frontal exploration (total or partial tumor removal)	7	0
Osteoplastic temporal exploration.....	1	1
Cerebellar:		
Suboccipital exploration and decompression....	25	2
Suboccipital exploration (with total or partial tumor removal)	24	6
	160	16

The following additional notes of the fatalities should be given. One of them occurred in the series of twenty-two subtemporal decompressions for unlocalizable tumors. No examination was permitted and the lesion therefore remains permanently not certified.

Of the twenty-four attempts to remove cerebral tumors when exposed by an osteoplastic cranial resection there were five fatalities, four of them in the endothelioma group, as follows: of the Gasserian ganglion, one; of the falx, one; of the mesial hemisphere, two, the death in one occurring several months after a total extirpation, in the other, an old man of eighty-six with epilepsy—it occurred from exhaustion due partly to a prostatic obstruction necessitating a supra-pubic operation. The fifth fatality in this group followed the extirpation of a large glioma.

Of the thirty-six pituitary, or attempted pituitary, exposures operated on by various routes, two patients were lost, giving a mortality of 5.5 per cent. One of the twenty transphenoidal operations, an advanced case of acromegaly, died in forty-eight hours (autopsy refused). There were no fatalities in the fifteen transfrontal cases, but then, in a considerably smaller percentage in this than in the transphenoidal group was the operation successful in its purpose. The single attempt to deal with an interpeduncular tumor from the side was fatal, presumably from post-operative cerebral edema, a consequence of the dislocation necessary to secure a sufficient exposure.

Of the twenty-five suboccipital explorations for presumed cerebellar lesions the two deaths occurred in cases of mistaken tumor localization, one of them a child with secondary hydrocephalus due to a bilateral papilloma of the choroid plexus, the other in a patient with a large diffuse cerebral glioma.

Six of the twenty-four cerebellar cases succumbed

after a more or less complete tumor extirpation; one of them three weeks after operation, following a fall causing contusion and hemorrhage; another a patient with an acoustic tumor who also had exophthalmic goiter and died of weakness on her twenty-eighth day; another an acoustic tumor extirpation with death from inhalation pneumonia on the fifteenth day. The fourth case died on the second day, of respiratory paralysis after a partial removal of a glioma from over the fourth ventricle; the fifth died suddenly on the third day, after a thorough evacuation of multiple cysts due to a chronic arachnoiditis (pseudo-tumor, verified); the sixth case died six weeks after an apparently successful extirpation, intact, of a tuberculoma.

The highest mortality, therefore, in this twelve months' series was in the suboccipital group of forty-nine operations with eight fatalities, giving a 15 per cent mortality, or a 25 per cent mortality for the cases in which tumor extirpation had been attempted. In this particular respect the record for the twelve months was a bad one, but the high percentage is due to the inclusion of the three cases which died some weeks after the operation from causes not directly attributable to it. Were one justified in eliminating these three cases the mortality would fall one-half, which is about where it should be.

Needless to say, in this entire series there has not been a single case of wound infection. One of my assistants, who had served in the hospital for over two years, had only seen a fungus cerebri in pictures until he went to France with our Hospital Unit and met with this condition for the first time in the cases of craniocerebral injury due to gunshot wounds.

Pituitary Disorders—In my address of 1905 there is a foot-note to the effect that conceivably a diseased pituitary body might some day be successfully attacked. How little was understood of pituitary disorders at the time can be appreciated from the fact that not until a year later (1906) was the first example of an infundibular tumor recorded in the Johns Hopkins series, and though a diagnosis of tumor with hydrocephalus was made we had not the faintest idea of the location of the lesion. When this was disclosed long after at autopsy we had, even then, no inkling of the disturbances of metabolism the tumor had provoked.¹²

Today the diagnosis of so-called adiposogenital dystrophy, particularly when due to a suprasellar tumor, would be made at sight by an undergraduate, for the clinical aspects of pituitary insufficiency when once pointed out prove to be as striking as those of cretinism or myxedema.

Chagrined as we were by this experience, it nevertheless served a good purpose since it made possible an interpretation of the experiments undertaken the following year in the Hunterian Laboratory with S. J. Crowe and John Homans. For in the course of some experimental canine hypophysectamies, the counterpart of these clinical states showing that they are due to a deprivation of pituitary secretion was unexpectedly hit upon.¹³

From this small beginning it has come about that hypophyseal disorders are now recognized almost as often as those of thyroid, and there is no reason to believe that one of these two glands is affected by disease any oftener than the other, though in view of the exposed seat of the thyroid the diagnosis may be read from afar.

In March, 1909, I first ventured to operate for a pituitary tumor in a case of acromegaly, employing a modified transphenoidal approach to the sella, the result of abundant studies on the cadaver. The procedure was merely a further development of the operation by way of the nose first used in its crudest form by Schloffer, the chief modifications making it possible to avoid nasal deformity and to lessen the likelihood of a post-operative infection. The case was a fortunate one¹⁴ and led me to develop the operation by this route still further, though fully aware of its limitations, for it is only appropriate to those cases in which there is a wide dilatation of the sella.

At the time of my second address in 1910 there had been twenty cases under observation and the following cautious expression of opinion was given:

No one as yet would venture to assert that a tumor in the infundibular region can be totally removed, and inasmuch as pituitary headaches and pressure against the chiasm may be relieved by a local decompression or by the chance evacuation of a cyst, it would seem wise for the present at least, in view of the importance of the gland, to confine operative measures in most cases to the mere removal of the sellar base with incision of the glandular capsule—a local decompression.

A further statement expressing conservatism was made to the effect that "hypophysial tumors which have extended from the infundibular region into the cranial chamber proper must be treated by the same rules of decompression as would be applied to any equally inaccessible lesion elsewhere."

12. The cases with one other was reported under the title "Sexual Infantilism with Optic Atrophy in Cases of Tumor Affecting the Hypophysis Cerebri," J. Nerv. & Ment. Dis., Nov., 1906, xxxiii, 704-716.

13. Clinical Aspects of Hyperpituitarism. J. Am. M. Ass'n., July 24, 1920, liii, 249-255.

14. Partial Hypophysectomy for Acromegaly. Ann. Surg. Dec., 1909, 1, 1002-1017.

Time has shown that the former statement was unnecessarily cautious for in most transphenoidal operations a considerable amount of tissue is removed. In the latter statement I was quite wrong, for a subtemporal decompression rarely benefits a patient suffering from pituitary headaches for they are due to local rather than general pressure effects. Hence when an adenomatous gland has penetrated its dural envelope and invaded the cranial chamber, it must be surgically approached from above, if at all, by an osteoplastic exposure of the region.

In a monograph on pituitary diseases, published in 1912, after a general discussion of the subject, my forty-three surgically treated cases were recorded. I had had but a single experience at the time with osteoplastic temporal procedures such as Horsley had practiced, and none with the approach from in front by elevating the frontal lobes as originally proposed by Hartley and McArthur.

With our increasing familiarity with pituitary tumors, however, the cases with an indubitable infundibular lesion surmounting a more or less normal sella, which would preclude an operation from below, came to be so often recognized as to necessitate the employment of some osteoplastic measure, and the frontal procedure was given precedence. Since my first case, Dec. 12, 1913), a considerable number of these operations, occasionally with a gratifying result, have been undertaken. Recently Heuer and Dandy in Baltimore and Adson in Rochester have warmly advocated a development of the lateral approach, first employed by Horsley. Unquestionably there is no one operation suitable for all cases, but I feel that the post-operative complications and high mortality, approximating 40 per cent, which so skillful an operator as Dr. Heuer admits,¹⁵ in view of the scant promise of permanent cure on recovery, will deter others from adopting this procedure.

In general terms, it is my present opinion that when there is a primary pituitary adenoma with enlargement of the sella and signs of implication of the chiasm, the operation of choice is a transphenoidal one. Properly conducted, it is an operation of comparatively low mortality,¹⁶ conva-

lescence is a matter of a few days and the results are often brilliant, with restoration of vision—the main object of the operation—which may be astonishingly rapid. However, as Dr. Heuer points out, it is not an operation which is likely to be repeated with equal success (true enough of any operation) in case the adenoma continues to grow rapidly or has already broken down the dural barriers and invaded the cranial cavity. Under these circumstances, if an operation is to be done at all, it must be from above if there is to be any prospect of preserving or restoring vision, and this—an improvement in vision—not mere operative recovery, is our present criterion of a successful procedure.

It is very doubtful, however, at an early stage of a primary intrasellar adenoma when the conditions are favorable for an operation through the nose whether patients should be urged to, or would be willing to, submit to an operation from above, with its admitted high mortality and likelihood of complications. For it is accompanied by a wide exposure of the brain whose cortex may suffer injury as may indeed the chiasm itself, and the operation furthermore opens the dural barriers so that further enlargement of the growth finds ready access to the region we would wish to protect.

With primary infundibular tumors surmounting, as they often do, a small sella of normal proportions, the problem is entirely different, and I am led to favor with some modifications the unilateral osteoplastic frontal operation. In the thirty-four patients with operations of this type (forty-three in number) there have been only two fatalities, the second and third cases. However, in only seventeen of the thirty-four patients was the lesion disclosed and in not all of them could it be satisfactorily dealt with. In 50 per cent of the cases therefore the nature of the lesion remains uncertified.

In a few cases, nevertheless, the results have exceeded all expectations and it has been possible to enucleate small solid tumors or to empty a cyst and subsequently to detach and draw out its collapsed sac. But I must confess that it is not an operation to be made light of, and I have occasionally added to the pre-existing damage of the optic nerves. Indeed it has been necessary once or twice to divide the functionless one of the pair in order to dislodge the growth. In the case of the pharyngeal-duct cysts, a condition which would seem most favorable, the results have been disappointing, for the cysts promptly refill unless the wall is fully removed.

The fight for vision is the crux of these oper-

15. Heuer, Geo. J. Surgical Experiences with an Intracranial Approach to Chiasmal Lesions. *Arch. Surg.*, i, 368-381.

16. At the time of writing my monograph on the Pituitary Body in 1912 there had been 29 transphenoidal operations with four deaths (13.7 per cent mortality). By the time of the Weit Mitchell Lecture (J. Am. M. Ass., Oct. 31, 1914, lxiii, 1515-1525) on Surgical Experiences with Pituitary Disorders there had been to May 12, 1914, 74 of these operations with seven fatalities (9.5 per cent mortality). A review of the cases since then shows an additional 83 operations with eight fatalities (9.8 per cent), making 157 transphenoidal operations in all with a mortality of 12.1 per cent for the entire series.

ations, and after all, the question of proper methods we neuro-surgeons must settle among ourselves, not by writing papers but by seeing one another's cases and attending one another's clinics. Meanwhile neurologists and physicians who have the decision to make may be comforted by the fact that the majority of these operations can be performed with a comparatively low mortality and a degree of symptomatic improvement which is constantly increasing.

Patients with disorders of the ductless glands, of the hypophysis in particular, show more or less characteristic mental attributes not necessarily deviating widely from the normal. I was inveigled once into writing an article on the subject, and whether from this or from some other beginning certain practitioners calling themselves endocrinologists have erected an extraordinary structure of symptomatic complexes based on meagre evidence and a fervid imagination. This has reached its climax in a recent monograph by a psychiatrist, Laignel-Lavastine. There is no way apparently of checking these elaborations, which bear about as much relation to the functions of the ductless glands as did the phrenological imaginings of Gall and Spurzheim to cerebral localization. Epidemics of this sort from time to time hysterically sweep over medicine, dying out in due course, the more quickly if unmolested.

Studies on the Cerebrospinal Fluid Circulation—It is true of all intracranial operations that in the knowledge of ways and means of controlling tension lies the chief secret of surgical success. Intracranial over-tension is largely a matter of an increase in the fluid content of the chamber, whether it exists as free fluid in the ventricular and arachnoid spaces or as an edema, a state to which the nervous tissues are particularly prone. Though formerly the extensive withdrawal of fluid was looked upon with apprehension it has come to be an essential step in many craniocerebral operations, during the course of which the fluid, either from ventricles or arachnoid spaces, is not only thoroughly evacuated but may be permitted to drain away during the course of a long operation. There may be ways other than by external drainage of accomplishing the same thing, but to this we will return.

One of the problems which confronts the neuro-surgeon is some method of dealing with the disturbances of cerebrospinal fluid outflow which lead to such malformations and disorders as spinal bifida and "essential" hydrocephalus. In the latter condition, operations innumerable have been advocated since the earliest time, none of them proving to be based on correct principles

if one may judge from their lack of success in practice. I have always cherished the view that these hydrocephalic conditions were produced by some failure of development of the points of escape for the fluid from the cranial chamber rather than, as was long supposed, from a fault or obstruction at the foramen of Magendie. The fact that in most cases the fluid could be withdrawn from the ventricles by a lumbar puncture, in other words that it had access to the sub-arachnoid spaces certainly seemed to favor this view.

Some early studies on hydrocephalus were carried out in the Hunterian Laboratory with Walter E. Dandy in 1910-11. It was found possible not only to catheterize the aqueduct of Sylvius but to produce an experimental hydrocephalus by mechanically obstructing it. At the same time some early attempts were made to investigate the functional activity of the plexuses but we did not get far with them.¹⁷

It became apparent that it would be necessary to carry our studies to the meninges if we were to find the most likely sources of obstruction. This work was undertaken by Lewis H. Weed in conjunction with Paul Wegfarth in the Surgical Laboratory during my first two years at Harvard. In the introductory notes to the series of reports upon this work¹⁸ a statement of the problems we had set ourselves to solve, so far as time would permit, is as follows:

* * * "Granting that the chorioid plexuses are the chief source of the cerebrospinal fluid—and this has not been conclusively proved—is the process, as some believe, a transudation, or an actual secretion, or, as Mestrezat regards it, a mere dialyzation from the blood? What conditions activate and what conditions inhibit these chorioid glands? Have they an internal as well as an external secretion? To what primary diseases are they subject? How early in embryonal life do they secrete? Why does the fluid which they elaborate differ so greatly from that secreted by most other glands? Why are the cells so impermeable to the passage from the blood stream of drugs and of substances such as the bile pigments which in conditions of jaundice quickly stain all other body tissues and fluids?

Granting that the fluid thus secreted by the choroid plexuses leaves the ventricles and spreads over the brain and down the cord in the subarachnoid spaces, does it receive accessions from elsewhere, from the ependyma or from pituitary or pineal glands? Are

17. Dr. Dandy has recently reported the results of these and some more elaborate subsequent studies which he undertook independently. By an ingenious method he has been able to show quite conclusively that the fluid is elaborated by the plexuses without the ependyma taking any part in it. *Experimental Hydrocephalus*. Trans. Am. Surg. Assoc., 1919, xxxvii, 397-428.

18. *Studies on the Cerebrospinal Fluid and Its Pathway*. Jour. Med. Research, 1914, xxxi, 1-176.

there lymph channels in the brain, and if not how does the central nervous system dispose of its products of tissue waste? If there are cerebral lymphatics do they discharge into the subarachnoid spaces and is the subarachnoid fluid therefore of the same character chemically, physically, and cytologically as the ventricular fluid? Why normally is the fluid practically limited to the subarachnoid spaces, and under what conditions does it become subdural?

Granting that fluid may escape by way of the Pacchionian granulations, is this the chief or only manner of escape? If an important avenue, why are these structures lacking in the lower animals and in the human infant? Are these granulations therefore pathological processes, and if so what are their precursors? Are there other means of fluid absorption along the nerves by way of the lymphatics, and if so how important are they? How do the spaces in the pia-arachnoid develop and do the chorioidal glands mature and secrete before or after their formation? Are there faults of development at these meningeal outlets for fluid which can account for congenital cephaloceles? Are there analogies in the fluid circulation of the eye to which we may attribute the disturbances of circulation of the intraocular fluids?"

Weed by adopting the principle of injection of non-granular fluids from which granules might subsequently be precipitated, showed conclusively that the arachnoid villi represent the points of escape for fluid which, by a process of seepage enters directly into the pachymeningeal sinuses. It was, I believe, Wegfarth's proposal that in cases of hydrocephalus a series of direct punctures be made directly through the sinuses into the subarachnoid spaces, under the assumption that the puncture holes would become occluded by arachnoid, making thereby new and artificial villi through which fluid might escape.

Weed's continuation of these studies on his return to Baltimore and his demonstration of the manner of development of the fetal arachnoid spaces which I assume (though the point remains to be proved) to take place when the chorioid plexuses first begin to actively secrete, certainly stands as the most important contribution to our knowledge of the meninges since Key and Retzius.¹⁹

If it is true that most cases of congenital hydrocephalus can be accounted for by a faulty development of the villi the rational treatment is to reproduce in some way this channel of outflow either by direct drainage into one of the larger sinuses or by encouraging the formation of new villi in the manner Wegfarth suggested, rather than by an attempt to check the formation

of fluid.²⁰ At least it is along these lines that our surgical efforts have tended of late years. Certainly no form of drainage into tissue spaces is effective, for by a curious property of the extracranial tissues when they are made edematous by cerebrospinal fluid leaking into them, a smooth endothelial-lined sac ultimately forms which is impervious to the further escape of fluid.

Such a procedure as Dandy has shown to be surgically possible, namely the excision of the plexus from within the dilated ventricle, can hardly be expected to serve the desired purpose, for if there are any remaining fragments of plexus (and it is a complicated organ) the same degree of tension should recur so long as the ultimate outlets for the fluid are defective.²¹ Possibly no more conclusive argument than that in Weed's more recent paper²² could be given, favorable to the view that imperfect formation or occlusion of the villi is one source if not the most common one of what has been called idiopathic (for lack of understanding of the process) hydrocephalus. By injecting a suspension of lamp-black into the cerebrospinal spaces of kittens, he was able to produce extreme degrees of internal hydrocephalus quite comparable to similar conditions seen in human infants.

At the present moment there are two or three new proposals before us which have a bearing on the cerebrospinal fluid and its spaces, and though admittedly still in an experimental stage, one or all of them may come in time to have considerable importance from a diagnostic as well as therapeutic standpoint.

In a recent paper which has aroused great interest;²³ Dandy has put forth some very definite claims regarding the localizing value in cases of brain tumor, of what he calls *ventriculography*. This is nothing more than the taking of x-ray plates of the cerebral ventricles after their fluid contents have been removed and replaced by air. It is quite certain that in some rare conditions a

19. The Development of the Cerebrospinal Spaces in Pig and Man. Contributions to Embryology No. 14. Carnegie Institution Publications No. 225, 1917, pp. 116.

20. In his more recent paper (The Diagnosis and Treatment of Hydrocephalus Resulting from Strictures of the Aqueduct of Sylvius. Surg. Gynec. & Obst., 1920, xxxi, 340-358). Dandy estimates that 66 per cent of all cases of congenital hydrocephalus are due to Sylvian obstruction. If this is true the agency of obstruction to which we have devoted attention is less common than we had supposed.

21. Grave doubts have been expressed by workers in Carlson's laboratory, as to the justifiability of the common assumption that the plexus is an active secretory organ and therefore that there is such a thing as a cerebrospinal fluid circulation, cf. Frank C. Becht and P. M. Matill, The Amer. Jour. Physiol., 1920, li, 1-173). If they are correct and we wrong, our entire theorem falls to the ground.

22. The Experimental Production of an Internal Hydrocephalus. Contributions to Embryology No. 44. Publication No. 272, Carnegie Institution, 1919, 425-446.

23. Dandy, W. E.: Localization or Elimination of Cerebral Tumors by Ventriculography. Surg., Gynec. & Obst., 1920, xxx, 329-342.

more exact localizing diagnosis might be made in this way than in any other, and, in the case of tumors situated in silent areas above the tentorium which have led to dilatation as well as deformation of one of the ventricles perhaps only in this way. That the procedure may be sufficiently developed and safeguarded so that it can be routinely utilized for this purpose is quite within the realms of possibility.

One particularly striking case has been included in Dandy's report, whereby an unsuspected tumor in the right occipital lobe was disclosed, though one must confess that it might have been capable of localization by earlier and more exact perimetry. However, as I have stated, the procedure is in an experimental stage and surgeons may safely leave it in Dr. Dandy's hands to more thoroughly work out its possibilities as well as its hazards, as he doubtless intends to do; and it would be highly desirable under these circumstances for everyone who undertakes the procedure to notify its inventor of their experiences and particularly of their accidents. In this way only will he be able to establish the proposal on a safe basis acceptable to others, as all hope that he may be able to do. That there have already been a goodly number of fatalities, doubtless in the hands of people less expert than the author of the method, is well known. It will soon have a bad reputation if so much is expected of it as is given in the author's conclusions, and if the surgeon is encouraged to believe that henceforth he will have less need of exercising his neurological knowledge in localizing brain tumors.

Another procedure likewise in an experimental stage, though capable, it is hoped, of further development, is the diagnostic *puncture of the cisterna magna*, a procedure worked out in the Army Neurological Laboratory under Dr. Wood's direction during the war, and which has subsequently been warmly advocated by James B. Ayer.²⁴ When one realizes how loath the profession was to adopt Quincke's lumbar puncture as a more or less routine measure, one hesitates to say that a suboccipital puncture will not some day come to be as commonly employed. However, even a lumbar puncture is not without risk, as those are well aware who have seen patients with unrecognized cerebellar tumors die from respiratory paralysis soon after one has been made; and the risks of a puncture of the posterior cistern under similar circumstances would be infinitely greater, thence this procedure like

the foregoing had best be left in the hands of its sponsors until they can give us complete details not only of the method but of its diagnostic and therapeutic possibilities, and above all of its hazards.

But probably the most suggestive papers issued by this laboratory during its short life were those by Weed and McKibben²⁵ on the experimental *alteration of brain volume* following the intravenous injection of various substances in solution. They observed that, after the cortex was exposed by a trephine opening, the intravenous injection of a watery solution caused the brain to protrude through the opening, and contrariwise that a hypertonic salt solution caused it to recede, sometimes to a very extraordinary degree.

That these observations had great possibilities of clinical application was immediately apparent to all, and Dr. Foley and others in my clinic have made it a matter of special study.²⁶ They found in the first place it would answer almost as well to give sodium chloride by mouth and it is at times quite amazing to see what an immediate symptomatic effect, particularly when there is increased intracranial tension, this simple procedure may have. That it is not entirely free from risk we have reason to know, but that it has great future possibilities of application we nevertheless are encouraged to believe, though here again it is a matter of slow painstaking observation on the part of a single group of people rather than indiscriminate observations on the part of many, which in time will establish its therapeutic and diagnostic possibilities and risks. As has been realized for a long time, the application of physico-chemical knowledge to the problems relating to the nervous system promises large returns and Weed and McKibben's studies lie in this direction.

It would be premature to pass upon the future role, which any one of these three measures I have mentioned, may come to play. Let us hope that they will not suffer a wave of wild popularity, to be cast off like von Bramann's callosal puncture, as good for nothing, simply because it could not do in other's hands everything and more than its author claimed for it.

THE SPINAL CORD

I have read over the general statement in my papers of ten and fifteen years ago regarding

25. Pressure Changes in the Cerebrospinal Fluid Following Intravenous Injection of Solutions of Various Concentrations. *Am. J. Physiol.*, 1919, xlviii, 512-530.

Experimental Alteration of Brain Bulk. *Ibid.*, 531-558.

26. Foley, F. E. B. and Putnam, J. T.: The Effect of Salt Ingestion on Cerebrospinal Fluid Pressure and Brain Volume. *Am. J. Physiol.*, 1920, liii, 464-476.

24. Wegfarth, P., Ayer, J. B. and Essick, C. R.: The Method of Obtaining Cerebrospinal Fluid by Puncture of the Cisterna Magna (cistern puncture). *Am. J. Med. Sc.*, 1919, clvii, 789-797.

the surgery of the spinal cord, and though I might give many additional illustrations I do not know that there is very much to add to the general principles of these operations than described. There are more things, possibly, to retract than to add.

Infections—In 1910 Flexner's serum for cerebrospinal fever had just been introduced and held the stage, but I fear that we are no further advanced in our treatment of other forms of meningeal infection than we were at that time, though proposals for irrigation and drainage of the meningeal spaces recur at more or less frequent intervals.

Great hopes were aroused, particularly from a prophylactic standpoint, by Crowe's discovery of the passage of hexamethylenamine through the chorioid plexuses and its prompt appearance, after administration by mouth, in the cerebrospinal fluid. We did not know at the time, that it appeared unchanged, and that only in an acid medium like the urine was it broken up with the liberation of formalin. Crowe's observations, however, upon the efficacy of the drug, particularly as a prophylactic, in experimental canine meningitis were nevertheless so convincing, we have continued with its use in certain conditions—in patients with basal fracture, before transphenoidal pituitary operations, and so on. It certainly does no harm, though we may have been leaning on a broken reed.

In view of the fact that most of these pathogenic cocci are acid producers I have harbored the idea that in process of their multiplication enough acid may be given off by them to liberate a certain amount of formalin in their immediate vicinity, without producing an appreciable change in the reaction of the fluid as a whole—in short that in this way, even though the cerebrospinal fluid retains its faintly alkaline reaction, the growth of organisms may nevertheless be locally inhibited. We have attempted by physico-chemical tests to demonstrate the truth or otherwise of this conjecture, without any really definite conclusions.

Tumors—As stated before, there is no more satisfactory operation in surgery than the removal of an accurately localized endothelioma of the spinal meninges—no operation unless it be for some of the major trigeminal neuralgias, in which the transformation from a suffering and bed-fast invalid to a normal life is more like a resurrection. One may imagine the elation which Horsley and Gowers must have felt in 1888 on the occasion of their epochal first case.

My experience with these enucleable tumors

has not been great—only seven cases additional to the one mentioned in my 1905 address which had been reported elsewhere.²⁷ Of many things I have learned in fifteen years, one is to beware of reporting "cures." This man had a recurrence of his symptoms, and some years later, at a secondary operation, a growth was disclosed which to all appearances might have been the primary one. On this second occasion it was removed together with the subjacent patch of meninges, and there has since been no recurrence. The lesson was thereby learned that it does not do to merely tilt these lesions out: their meningeal attachment from which they take origin must also be removed, and this is not altogether easy since the central point of attachment seems invariably to be at the point of emergence of a segmental nerve root.

It is astonishing how promptly it begins and how great a degree of functional recovery is possible in the flattened cords long subjected to pressure by such a tumor. What is more, the promptness with which this restoration sets in may be taken as an evidence of the delicacy with which the tumor enucleation has been conducted. The last of these patients in the series gave the history of having had a cancer of the thyroid removed in 1900 and in 1903 a cancer of the breast, consequently when her spinal symptoms began to appear a few years later they were naturally attributed to a metastasis. For this reason an exploratory operation was thought inadvisable, and she gradually became bedridden from paralysis. However, the results of a neurological examination coupled with the characteristic manner of onset of the symptoms, were so unmistakably in favor of a spinal endothelioma that an exploration was advised and the expected lesion found and removed. Voluntary movements in her previously paralyzed extremities were possible the afternoon of operation, and before her discharge she was walking with slight assistance and now, a few months later, goes about alone.

From these brilliant results, which are all too few, there is a long graduation of less and less favorable cases to the malignant growths at the other end of the scale. No sufferers so greatly tax one's sympathies as the victims of a malignant spinal metastases, and in 1910 I find that I had even suggested the deliberate transection either of the entire cord or of the posterior columns alone, cephalad to the lesion." The alternative of pain or complete permanent paralysis is hard to face, for patient as well as sur-

27. Intradural Tumor of the Cervical Meninges with Early Restoration of Function in the Cord After Removal of the Tumor. *Ann. Surg.*, June, 1904, xxxix, 935-956.

geon, and was one which I had shrunk from until a few years ago, though fully aware that the victims of a transection the result of a crush usually lead an existence free from pain and surprisingly often take a curiously detached and philosophic view of their plight. This peculiar dispositional attitude of mind has seemed, in short, to be a mental attribute consequent upon the abolition of all impulses from the lower body.

Much against my wishes there was admitted to the wards in 1916 a woman suffering great pain from an obvious spinal metastasis, attributable to a breast amputation for carcinoma performed twenty-five years before. As her paralysis below the twelfth thoracic level was nearly complete, it did not seem possible that she could live for long. For months her pain had been controlled by morphia which seemed the only recourse. She, however, held out for months, courageous and cheerful though begging for some operative relief, until finally with many misgivings I divided the cord in the more accessible thoracic region well above her lesion. The results far exceeded both the patient's and my own expectations. She had no more pain whatsoever, her narcotics were completely withdrawn, she gained in strength and color, acquired an automatic bladder control and lived in really great comfort, bodily and mental, despite what she knew to be in store for her. The end came six months later—the easiest and happiest end in a case of this kind of which I have cognizance.²⁸

Akin to this, though less radical and advocated for less critical conditions, are other palliative measures which have been put in practice. Forster's posterior root division in cases of tabes, which is but a development of the old operation advocated for intractable neuralgias of amputation stumps, is one example. Another is a procedure which Frazier and Spiller have described, of dividing the antero-lateral columns alone, a procedure similar to that which I suggested in 1910, though based on Henry Head's subsequent more accurate localization of the pathway for pain.

(Continued in November Number)

28. Her death occurred while I was overseas, where the following letter was received from her husband. It may deserve quoting in view of the rarity of such a procedure. " * * * After the operation she was brought home in May, and was enabled to enjoy the birds and flowers, and go out in a wheel chair. She finally very slowly yielded to the disease passing from us October 31, nearly a year from the time she entered the hospital. She was cheerful and patient during all her illness but beyond digestive troubles she had little pain and nothing acute. * * * "

PREVENTION AND TREATMENT OF WOUND SHOCK IN THE THEATRE OF ARMY OPERATIONS*

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The suggestions herein offered by the writer are made with the idea of bringing out the practical medico-military aspects of war surgery in a general way, rather than to confine the discussion to a technical article on shock, in its relation to cause and effect upon nerve and other tissue changes, which latter, after all, is purely a question of chemico-pathology, surrounded by most interesting problems yet to be solved, but not intensely fascinating to the wounded soldier dying in the shell hole.

Fifteen years ago the writer attempted, in his feeble way, to interest the civil physicians in war work, but met with an equally feeble response. The recent world-war has demonstrated beyond all question of doubt, that the civilian doctor must be taught the principles, not only of war surgery *per se*, but must be made acquainted with the general conduct and management of hospitals, ambulance organizations, sources of supplies, evacuation of the sick and wounded, conservation of men and food and many other important subjects including a certain amount of training in military discipline; all tending to an intelligent coordination and mobilization of plans and ideas necessary to a successful issue. I am sure a chair of real military medicine and surgery conducted as an important branch in our medical colleges would be of immense value to our country. For the first time in history the army has recognized the medical department; this is absolutely true of the British and French, and the thought was beginning to dawn upon our own establishment before November 11, 1918.

The medical profession is now awakened to the fact that war means service, that every able bodied doctor of military age should offer his services when his country calls, but he owes more, for he should be educated, not only in the art of war surgery, but the practice and principle of everything connected therewith. Thus a finished product rather than raw material is immediately available. But what has all this to do with the subject under consideration? To my mind—everything. The most efficient war operating surgeon, is of little use if all cases received by him are in profound wound shock. The mortality in front line hospitals was largely due to shock. If

*Read before Tri-State Medical Society.

my statement is correct, then greater interest and more thought must be given to the wounded, under conditions existing in positions prior to being received by the operating unit.

Again the necessity of early evacuations from front line operating units oftentimes endangered the lives of the wounded (shock). This condition may or may not be corrected, by more thorough preparedness and more intelligent coordination and cooperation by efficient men trained and selected to solve these problems.

Unless that interest and responsibility are equally shared by all officers from no man's land to the base, no intelligent cooperation can ever be accomplished, therefore, the excuse for this paper.

PREVENTION OF WOUND SHOCK

In order to cover this important sub-division of the subject under discussion, the writer finds himself almost discouraged. The time allotted to the reading of this paper, and the monotony of rearranging "field regulations" would be a task too laborious and uncertain for the writer, and more impossible for the audience, were it disposed to remain throughout the reading. However, a general outline may not be out of place, and with many misgivings the writer offers the following:

Having had the privilege of direct contact with Captain Cowell, R.A.M.C., early in 1918 while on the British front, and having great confidence in the opinions of this most competent young officer, I can do no better than give his conclusions, the result of an extraordinary experience.

The observations on wound shock by Captain Cowell are based on results of personal scientific investigation on wound shock. In order to place the whole matter on as scientific a basis as possible, this officer left the casualty clearing station and went to live in the trenches with the soldiers, and thus acquainted himself with their habits, their food, and, in general, the life and surroundings of the men who were constantly coming up into the front line trenches, to serve their allotted time in the line. As a matter of great importance, to get correct data, he took the blood-pressure before and after the man was hit, using the Tycos instrument and recording the pulse and respiration. In order to be sure to have the blood-pressure of all men who were hit previous to the wound which they might receive, Captain Cowell made readings of all the men in the sector where he lived. It may be well to state that no man lives under normal conditions in the trenches. In the first place they have but one pint of water a day, and they usually get only three or four hours sleep, which is in the day-time, because no one

can lie down at night. In the second place, they stay six days in the front line trenches before being relieved. It was noticed that the blood-pressure in a quiet day was apt to be quite low—from 105 to 115, but under the excitement of a raid or any degree of permanence in a bad day the pressure rose to 140, even to 160. As a rule there is a high pressure just before something happens. This is said to be accompanied by increase in the adrenin content of the blood. Man is naturally a fighting animal and before a battle his blood-pressure goes up. Excitement and worry create a corresponding high blood-pressure, to give to the cells the nourishment they will need in the struggle to come. The coagulation time of the blood shortens in order to control hemorrhage, the viscosity increases enormously and more glucose is liberated from the liver than normally. In nature the pendulum always swings back after a while and relaxation always follows. A prolonged, excessive effort, eventuating in fatigue (which is a big factor in shock), together with the excitement, worry and high tension of six days in the trenches, with little sleep, much cold, wet, and with insufficient nourishment, bring about a combination of insults to the nervous system, causing its inner mechanism to become disarranged, with relaxation of the vaso-motors. In addition to all this there is a decided lowering of the alkalinity of the blood, causing acidosis.

While Captain Cowell was making his trench observation, our Captain Cannon of Harvard University, was working in collaboration with him, making the same observations in the rear at the casualty clearing station on the arrival of those same patients.

Shock is the bete noire of the military surgeon, and it stands in the way of successes in military surgery, which would be otherwise easy to obtain in many cases. Wound shock has been defined as a condition in which the blood is out of circulation and, therefore, the English Shock Committee decided upon "Exæmia" as the best name for the condition, a name, by the way, which was used by Hippocrates.

In artificial shock procured in animals, the large vessels of the trunk are found empty, a condition which has been verified on the human being in war, so the splanchnic pool theory cannot hold. Crile's method, admitted as being important, cannot be interpreted to extend the cause of shock. His view that there are primary changes in the nerve cells is not tenable because they are the secondary result of anemia.

Shock can be produced by the introduction of repeated doses of adrenalin, and as a matter of

fact, clinically, it is of no value in treating the condition. There is a diminution in the volume of the blood, but as yet we do not know where the blood goes to. There is a curious accumulation in these pale patients of red blood cells in the capillaries, giving high counts of six million, and a hemoglobin percentage of about 100. It would seem that these changes in the blood are due to circulatory failure; there is a very low pressure and an acidosis which varies inversely as the blood pressure rises. In shock the blood-pressure drops to 70 or 80 and the temperature is subnormal. The reason why the cardiac muscle fails when the pressure is reduced to 81 millimeters is, that there is not enough force to overcome in the blood stream, and the heart does not longer beat with its customary vigor. But the cause is not always a question of blood-pressure. Nor is chilling alone enough to cause shock. Nor is it a question of general weakness, as Captain Cowell called attention to the fact that a dying man with a blood-pressure of 30 from shock, still has good muscles and a firm hand-grip and frequently requires two or three orderlies to hold him on the bed. All of this means that, frankly, we do not yet know what shock is.

We have already noted what we had better call preshock conditions. They are lack of water, fatigue, loss of sleep, lack of food, and with continued high pressure. There are three degrees of shock recognized by Captain Cowell:

First, that in which there is no depression of the blood-pressure; slight cases of shock.

Second, those in which there is no immediate danger from moderately severe wounds, but in whom shock comes on later, there being none at first; even certain perforating wounds of the abdomen fall in under this head.

Third, the most severe or mortal wounds in which shock comes on immediately; the pulse goes down, the patient begins to sweat, and it looks as though he were going to die.

These are the clinical degrees of shock usually seen. They can be grouped again into:

1. Those who have lost little or no blood.
2. Those who have lost much blood.
3. Those with multiple wounds.

A fourth classification might be added—those suffering from sepsis and a combination of the other three.

In the first class, in which the wound is apt to be trivial, there is no real shock but the patient is simply emotional and has an increased blood-pressure.

In the second class of cases, those who have lost much blood, are anatomical injuries of im-

portance in chest, thigh, buttock, etc., regions that are especially predisposed to shock.

Gas gangrene always give shock.

From this classification you may divide shock into (A) primary wound shock and (B) secondary shock.

In the secondary shock, whatever the cause may be, it seems to be initiated or gradually increased, by the following particular elements: Cold, fear, pain, hemorrhage and sepsis. Fear is an important element in all of them.

Primary wound shock is usually fatal. Secondary wound shock is largely preventible. That is to say, either trivial or moderate shock may be turned into severe or mortal shock under those influences, and it may be prevented by preventing or alleviating those conditions. We must distinguish clearly between psychic impression and shock. Captain Cowell calls attention to what we have all seen: "Very brave men who faint every time they see blood;" but in these cases the blood-pressure was often normal. In cases of severe shock there seems to be a general anesthesia, allowing one to operate without an anesthetic, but we should remember that such cases are liable to die without any pathological findings. Shock of emotional origin comes on immediately, which is a point of diagnosis between it and true secondary shock. We must make great efforts to educate the medical officers at the front along the lines laid down in this paper for the prevention of shock which does not usually appear until the patient reaches the casualty clearing station. Slight wounds are often followed by severe shock, particularly when multiple, and in such cases gas gangrene is favored in its development. The emotional element in shock is often seen in irritable and nervous patients, in whom it is always exaggerated; but it has a very decided influence in deepening shock and it is a grave factor when it intervenes to any extent. It is curious that wounds of certain parts of the body cause more shock than in others. For instance, head wounds give comparatively little shock, while those of the chest, abdomen and upper third thigh give a great deal. There is a difference in color between a person who is shocked from loss of blood, in which the skin has a marble white pallor, is cold and clammy, and a person shocked without hemorrhage, in which the patient has a dirty, livid color.

TREATMENT OF SHOCK

The first measures for the prevention of shock are taken at the regimental aid station and are repeated at the advance dressing station and the

main dressing station, and, if necessary, even at the casualty clearing station. Men should be carried through the trenches with a sufficient dose of morphine to dull their pain and reduce their apprehension. Large doses of morphine do more harm than good. An average dose should be about a quarter of a grain. They should be transported in warm ambulances and at every station they should be warmed on the litter by the method elsewhere detailed. Too much emphasis cannot be placed upon this as it is a great preventive of shock. An important means of treating shock is alkaline drinks which should be furnished the soldier, as it combats the acidosis and thereby reduces shock. A good dose is one teaspoonful of bicarbonate of soda in a hot drink of water. Hot fluids by the rectum and intravenous injections of adequate solutions can be given but you should not inject these things under the skin because it does no good. Ordinarily a deci-normal salt solution is not as good as the 2 per cent or even 4 per cent of hypertonic salt solution. Better than this, however, is the treatment initiated by Colonel Bayliss, who first used a 7 per cent solution of gum arabic, which has the same viscosity as the blood; but by experimentation Captain Cowell found that the best combination is a 5 per cent gum arabic solution with 4 per cent of sodium bicarbonate to counteract acidosis. This gives the most satisfactory results and is a fair substitute for transfusion in case of shock following hemorrhage. In plain shock the sodium bicarbonate solution alone should be used. Indeed, sometimes you will find clinical evidences of acidosis with hissing respiration, vomiting and extreme restlessness. In these cases if you will use a 4 per cent solution of acid sodium bicarbonate it acts like magic. To make up this solution you boil the 5 per cent gum arabic solution first, and allow it to cool to 150 degrees Fahrenheit; then you add your 4 per cent solution of sodium bicarbonate. This gives a milky solution. You must never boil the sodium bicarbonate solution.

Transfusion at the front is not an easy thing to do and there is reason to believe that it is being actually over done. In extreme cases where all conditions are favorable, it of course, may be tried, but it should be remembered that for transfusion of blood one needs a proper donor, and this is very difficult to arrange for.

It is always best at the casualty clearing station to wait a while before operating. Never use chloroform as an anesthetic for a dangerously wounded man. Gas and oxygen are the best; but the vapor of ether is good. One should avoid the production of cyanosis as this increases the

amount of CO and augments shocks. Local and spinal anesthesia is condemned as impracticable.

At the casualty clearing station the treatment of the man who comes in in shock should be as follows:

1. Put the patient to bed, warmed with hot bottles or electric pads, and by the method of heating a litter (already described), or place over him a hood, heated by a lamp connecting with a stove-pipe which enters the hood, or by a group of electric lights. When using the hood one should always keep the face exposed that the patient will not re-breathe his air and get too much carbon dioxide, which increases the acidosis and thus the shock.

2. Rectal fluids can be injected, or intravenous injection employed; or in the last case even transfusion may be practiced.

The writer heartily endorses everything Captain Cowell advocates except the use of gum salt, and the use of local anesthesia. While with Captain Cowell on the British front the writer did witness improvement in many cases following the use of gum salt, but later at Chateau Thierry, St. Miheal and the Argonne fronts, the use of gum salt in U. S. Mobile Hospital No. 1, a hospital which operated nearly 7,000 wounded soldiers, proved not only useless but harmful to such an extent that it was abandoned.

The gum salt used by U. S. differed, however, from that used by Captain Cowell which may have been responsible for results obtained. Captain Cowell used a 5 per cent gum arabic solution with 4 per cent sodium bicarbonate to counteract acidosis; while the American preparation was a 6 per cent gum acacia and 0.9 per cent sodium chloride in distilled water.

In our experience the fluids used for intra vascular work, which gave best results were: Blood, citrated blood and saline.

I wish to emphasize what Captain Cowell says concerning "waiting awhile before operating." The writer recalls many (one time very disagreeable) arguments with certain C. os' concerning this question.

Every seriously wounded man, should be put to bed and heat applied, a hot saline drink and given a good rest before even going to the x-ray hut.

All severely wounded men are in shock or near shock when received at the Mobile Hospital, and for the latter, the time and manipulations required for x-ray or the short anesthetic and quick operation ahead—may be the final straw, to produce a fatal termination.

Just here it may not be out of place to mention a personal observation concerning the personnel of "shock teams" as sent up by our army offi-

cials, which may be worthy of discussion. Some of these officers were young men just out of college with little or no surgical knowledge, who in the writer's opinion were not sufficiently experienced in surgical judgment to determine correctly the conditions present. The greater number of these men were not surgeons in any sense of the word.

I am satisfied the trained surgeon is much better qualified to judge of the degree of surgical shock—of when and when not to operate, etc., than the medical man however well trained he may be, in the practice of internal medicine; therefore, in the opinion of the writer the general all around surgeon should act as head of a shock team. Major Yates, here present, and Lt.-Col. Miller of Base Hospital 27 both chiefs of operating teams in Mobile Hospital No. 1 while on the Argonne front, may recall the difficulties encountered by having unexperienced men sent up on "shock teams." I do not wish this statement as a criticism of these young men for they were capable gentlemen in their own line, but rather as a suggestion for the future chief of the shock service to consider.

The writer wishes to emphasize the importance of having the best man as a triage officer. He should be a man of sound surgical judgment with much experience, in order to diagnose the near shock cases.

Hundreds of cases leaving our field hospitals in good condition were admitted to Mobile Hospitals or advanced evacuated hospitals in extreme shock, some were dead on arrival, having passed away in the ambulances. Gas gangrene, by fighting shock, whatever shock may be, can be postponed, thus giving the patient a better chance after the operation of debrediment.

The author is satisfied that double the number of field hospitals now authorized should be supplied to each division. That four Mobile hospitals, each with 150 beds for the wounded and ample accommodations for a large surgical personnel should work together as a team. All four to be in active operation during fixed battle lines, but during advances the one in the rear to be packed, and ready to go ahead with the troops. In other words, a modified leap frog movement is inaugurated. In addition to the already understood field hospitals, etc., Mobile bed units under the command of a sanitary officer with an enlisted personnel of tent pitchers and trained orderlies of the medical corps would be of immense value in preventing shock. These units subject to call from either field hospital or Mobile operating hospital. At least six of these units, each

capable of erecting tentage and beds (straw or cot) to accommodate four hundred. These tents and equipment should be similar to the field hospitals, light and easily manipulated and above all should be thoroughly supplied with heating devices and hot drink equipments. The bed units to be corps organizations.

Each Mobile hospital should be supplied with twelve, three ton trucks, one light fast truck, one staff car, one motorcycle, one motor water wagon, and three ambulances, as a part of the permanent transportation equipment. The entire transportation facilities of these of Mobile Hospitals. Thus forty-eight three ton trucks are always available, twelve ambulances likewise are at the disposal of the director. The above plan, of course, should be augmented by many other important and necessary adjuncts too numerous to mention at this time. Among them, however, may be mentioned the following:

1. Increase trained personnel for aid and dressing station.
2. Training of every officer and man of the army in the principles of "first aid," litter bearing and the danger of shock and the necessity of heat and saline drinks.
3. Good splinting, especially the Thomas variety and the training of all enlisted men in their application. (In the British army the trained Tommy could apply a Thomas splint to a fractured thigh in four minutes.)
4. More equipment for heating of the wounded in dressing stations and field hospitals.
5. Most experienced officers selected for surgical triage.
6. Hot thermos bottles containing alkaline drinks as part of the equipment of ambulances, in addition to better heating devices for the ambulance itself.
7. Special marks for severely wounded in order that greater care may be taken in transportation, as well as a signal for immediate attention on arrival at destination.
8. For field hospitals, less surgery and more beds, more heat, and more hot saline drinks.
9. For Mobile hospitals, less shock and more surgery.

The writer in closing wishes it thoroughly understood that he appreciates the difficulties which had to be overcome by the medical department of the army. He is thoroughly satisfied too, when history is written, that the medical service of the U. S. Army will shine out above all others, at the same time we must all recognize the fact, that many mistakes were made, time and motion lost, the result of lack of preparedness of the entire

country; and many obstacles had to be overcome on account of our own lack of interest before the war as well as the oversight and lack of appreciation of the regular medical department of the army by the War Department and Congress throughout the years preceding 1917. It is up to the civil physician to take further interest, learn something from the post mortem and insist, upon fair play even in time of peace, for it is not for ourselves but for the sick and wounded we take our stand. And finally I wish to thank your Society for the kind invitation to be present here today. In the meantime, let us pray for peace and prepare for wound shock.

Discussion

Dr. John L. Yates, Milwaukee, Wisconsin—I should like to have the privilege of trying to discuss two points that Dr. MacCrae made: First, to testify to the accuracy of every statement he has made about conditions in those front area hospitals; and then, to give an interpretation, perhaps, of another point of view about Dr. Cannon's work with gum salt solution in the treatment of shock. Dr. MacCrae suggested that everything was not ideal in taking care of those wounded men. There is less than nothing to be gained by making carping criticisms of what was or was not done. We need not lament now about the poor fellow who didn't come back who might have been saved; we can't help him. The fellow we are looking after is the boy who is going out next time. It is our duty to see what we can accomplish, not only by criticism, surely not by insulting talk, but by telling and acting upon the plain straight truth. We must find a way of compelling a reorganization of the Medical Corps of the Army upon a basis that will be sufficiently effective to give to the wounded man in the next conflict something that he did not get in this last show, to-wit: a square deal. I had the privilege of being, from July 18 until November 15, exclusively in front area hospitals that were designated for the care of non-transportable wounded. That involved seeing the injured from several divisions in line, occasionally the same division at different times, and included the experience obtained when the weather was dry and hot, when there was intermediate weather, and when the weather was cold and wet. We have seen the shock salvage vary in the same drive, this being the Chateau Thierry fight, from perhaps 40 per cent and better down to less than 10 per cent or worse. It was due, in that particular fight, not entirely to time and length of transportation, because the worst results came with the shortest lines of transport. This was because these men, when they went into the line, were in such rotten shape that a mere perforating wound in the foot by a machine gun bullet was more than apt to result in death within about eighteen hours of the time the patient was received in the advance hospital. This was due to over-exhaustion, under-feeding, and above all, under-watering, before going into the line.

The command of this Division that showed such poor results happened to be broken at that time. Later on, we served behind the same Division with Colonel MacCrae's Unit. The men came back only fairly promptly, but instead of coming back virtually moribund, they came back in comparatively good condition. Just here we can discuss the treatment end of shock. That is just as valuable, more valuable, perhaps, in civil practice. Let us forget, if we can, the so-called mystery that surrounds the origin of shock. One fact that we do know about shock, from the therapeutic standpoint, is that prevention by the grain is worth cure by the ton. The one thing that must be avoided is allowing systolic blood-pressure to remain below eighty (80) millimeters of mercury for longer than two hours. If that is permitted, there is going to be developed progressive degeneration of the so-called vital centers of the brain, and no matter how soon thereafter blood-pressure is returned to normal, death must almost inevitably result. The great handicaps to proper shock treatment in the American Army were the way the forces had to be spread out because of the type of fighting, and our damnable lack of cooperation and coordination in being unable to maintain in advanced dressing stations adequately prepared and trained shock teams. Colonel MacCrae said that the gum salt solution furnished by the American Army failed. That is both true and untrue. It did not fail when given properly as is certified by the experiences during the warmer weather. After the cold weather began it failed. Why? Not because gum salt solution was poorly made for the American Army, but because the principles governing its administration were inaccurately appreciated. By the time the men were got back where shock teams were available and they could be given as good anti-shock treatment as is possible by the means of gum salt solution, those men were physiologically beyond recovery as shown by the failures of blood transfusion to produce more than temporary resuscitation. Miracles were expected of gum salt and it was condemned for failing to accomplish the impossible and for doing actual harm when improperly given. We have to indulge in personalities in order to make more clear to you who didn't see that fighting what units like Colonel MacCrae's were up against, and then perhaps public sentiment will get strong enough not to ask but to demand that the Medical Corps of the United States Army be reorganized not eccentrically around the surgeon general, not around authority like that, but concentrically around the one thing that justifies the existence of the Medical Corps, namely service to the sick and wounded. Just so long as our Medical Corps worships rank, just so long as professional attainment is not the means to preferment in the army, just so long as the clever fellow who knows how to play politics and not the man who knows his job gets promotion in the army, just that long we are going to sacrifice the lives of our men. I want to cite you an instance. There came to France in August, 1918, a draft division from the United States.

This Division was under, as far as the Medical Corps was concerned, a chief surgeon who afterwards proved himself to be a man of the highest ideals and willingness, but he came a product of the teachings of the regular army. He came with the idea that the only things that were worth consideration were whether or not his sanitary formations knew what "stretchers left" and "stretchers right" meant, whether or not they could get their tent pegs up at the proper distance apart and latrine were dug as specified in the blue book, whether or not all reports were made out properly and that they were submitted in triplicate. Those were the things that occurred to him as being the real essentials of the medical end of the military division. It wasn't until after he had been in France for some time that he had a chance to come in contact with men who had actually been taking care of the wounded, and for the first time (and he was a man of intelligence, too) did he realize that he was up against a proposition not of setting up tents, but of getting on splints, treating shock, getting the wounded man back in time to have a chance for his life. It was not until then that he awoke to his obligations. Within three weeks, his Division was in one of the nastiest corners of the Argonne fighting. They had hardly gotten their field hospitals set up and going when they were knocked down by Hun shells. He was game, set up again and did the best job he could even if conditions were rotten. His efforts were not entirely successful, not because he didn't try to do his best but because nothing better was possible for him at that time. We saw the man afterwards. He was one of the few division surgeons whom we saw who took the time to come back to the field hospitals or to these mobile units and look out personally for the care of his men and try and see if he could do this or that or the other to make that care better. A more heart-broken man you never saw. That man was criticized. He was threatened with court-martial. His training alone can be criticized for his not having delivered better goods. It wasn't fair. He had been developed under a faulty system. Don't let us criticize the regular army officers as individuals. It is the system we are after and the system is too big and too strong for any effort to break it unless that effort is united and is impelled only by interests centered on the wounded men. Just this last statement: The French, the British, the Belgians, found that the types of infection, the character of the injuries and the exposure to which the wounded were subjected, the optimum period for treating them was less than eight hours after injury. After that, their chances of recovery went down with more than proportionate rapidity. We were detailed to one job, and that was to try to find out a means of standardizing the treatment of thoracic injuries and as a result we were sent forward where the wounded men were supposed to get back the quickest. In looking up our statistics which are quite as worthless as other statistics we did get this one point: That the difference between the favorable results and the un-

favorable results was two hours. It was the difference between twenty-two and twenty-four hours. If we take the whole A. E. F. experience, it is going to show that twenty-six hours plus was the average time for the delivering of our men back to the place where they could get care and treatment.

IOWA MEDICAL JOURNALISM

D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

Three events of fundamental importance to medicine progress occurred in Iowa in 1850. We have already noted the beginning and growth of the Keokuk College of Physicians and Surgeons, and the Iowa State Medical Society.

The organizing of the medical college, suggested the necessity of a medical journal as an aid to the interests of the institution. It is interesting to know that the leading men in all three activities were the same individuals: Dr. John F. Sanford of the State Medical Society, and Drs. Sanford, J. C. Hughes and McGugin of the Medical College and the Medical Journal.

The first number of the Western Medico-Chirurgical Journal was published in Keokuk, September 1, 1850. In the editorial introducing the Journal to the medical public the editor says:

"This is the first medical journal ever issued west of the Father of Waters, north of the Missouri, in that boundless region, the commerce and power of which is destined to affect the American continent and which in its rapid, almost magical transition from nature's wilderness to the cultivated fields; the flourishing villages and populous cities of civilized and enlightened men, presents a subject of reflection unsurpassed in interest in the annals of the world."

The writer in a moment of prophetic enthusiasm expressed himself in rather stilted phrases, but those were days when the eyes of men were turned to the future and Keokuk being the gateway of Iowa, the editor felt justified in expressing himself in terms of his own. The writer goes on to say: "With full faith that our medical brethren will respond to these sentiments and extend to our Journal, the necessary support we enter upon our duties with a pledge, that no pains or labor shall be wanting to make it worthy of their confidence." The Journal was conducted by the Faculty of the Medical Department of the Iowa University, Dr. J. C. Hughes, editor-in-chief.

The first paper in number one, volume one of this pioneer medical journal, was by John Forest Dillon, M.D., of Farmington, Iowa. (Dr. Dillon soon gave up the practice of medicine, took up

law and became a famous attorney, judge and professor of constitutional law in Columbia University, New York.)

The title of the paper was "A Case of Rheumatic Carditis; Autopsical Examination." It appears that this man had been under the care of a class of practitioners—the lineal ancestors of a group that we have with us now and always will have with us. The doctors who treated the case were known as "Thompsonians, Beachitis, Emetics and Homeopaths with which our Western country is so disgracefully flooded." This man, it appears died after being treated by a Thompsonian doctor with large quantities of lobelia which was the favorite remedy with this class of practitioners in early days. Dr. Dillon performed the autopsy twelve hours after death.

Under the head of surgery, there is an article on nitrate of silver by Professor J. F. Sanford, who states; "No remedy in the materia medica may rightfully claim a higher consideration from the surgeon than the nitrate of silver, yet we believe there are few so little appreciated by the general body of the profession."

In the October number (1850), we are informed of a visitation of cholera which came upon the people of the Mississippi Valley, especially afflicting Burlington through the wisdom of Providence, for it is stated in these words:

"It is not our purpose to write an extended article upon this terrible pestilence which in the wisdom of Providence has again visited us." In Keokuk, so it is recorded, in the months of May, June, July, and August there were forty cases of cholera with twenty-five deaths. In Burlington, it is reported that during the same time or rather a little later, on the night of the fourth of July, the number of cases attacked from that time on to October, was between 400 and 500. The number of deaths from 80 to 100. This in a population of about 5,000.

It does not appear that the remedies used had much effect, although Dr. McGugin said, "in his opinion, Calomel was the sheet anchor; not given as a specific, but as a remedy which more frequently than any other, would excite the secretion of the liver, diminish the congestion of the viscera, determine the circulation to the surface and extremities and thus cure the patient." The doctor recommended calomel in doses of from 20 to 30 grains and stated: "This was the course pursued by myself and several other physicians, and we saw no reason to change it, though of course, it was not successful in every case."

Keokuk and Burlington no longer fear a visitation of cholera, thanks to medical science. Al-

most sixty-nine years later another visitation came to Burlington in the form of an influenza and pneumonia; there were 2,500 cases with 500 deaths. If Dr. McGugin in 1850 had predicted that in a few years, cholera would disappear, forever would it seem less strange than to prophesy today that influenza likewise will disappear through the discoveries of medical science?

In the October number, 1850, is an editorial review of the first meeting of the Iowa State Medical and Chirurgical Society (Iowa State Medical Society) in which it is stated that; "The proceedings of this Society, in the form of a neat pamphlet came to hand too late for notice in the first number of the Journal, but it gives us great pleasure now, to transcribe such items in connection with the organization of the Society as will be most interesting to our readers. Much effort has been expended by several eminent members of the profession in this state, during the past few years, in directing the minds of medical men to this important subject, but the call, issued in May last, was the first to which there has ever been a satisfactory response. We are happy to say, however, that, although the profession have been slow to move in reference to this matter, when they did assemble in convention at Burlington in June last, their action was praiseworthy and efficient. About twenty-five physicians met pursuant to this notice, and entered upon the duty of organizing a State Medical Society with commendable zeal.

"The discussions which eventuated in the fulfillment of this object, were conducted with dignity and ability, and inspired all those who were present, with confidence in the success and permanence of the Society. It will be seen by the synopsis of proceedings below, that the Society adopted a constitution and by-laws, and appointed several committees whose duty it will be, during the present year, to develop as far as possible, the scientific resources of our state, and collect such medical statistics and general intelligence, as will be a necessary basis for future action.

"The duty of the several committees appointed under these resolutions, can be performed but imperfectly without the cooperation of the profession throughout the state. It is all important, as an aid to the further enlightened action of our State Society, that the state of the profession in Iowa shall be actually known to them, in order that the obstacles to reform and progress may be seen and removed. A committee of three, however, occupying one or two localities, cannot extend their investigations into every portion of the state, and regular members of the profession,

wherever situated, should manifest their zeal for the promotion of science, by communicating such facts as come within their observation, to the chairman or members of the various committees. Thus a report of the number of physicians in a particular county—the proportion of regular practitioners, of graduates, the principles which have regulated their intercourse, etc., etc., would greatly aid the committee under the first resolution, whilst a little attention to the meteorological phenomena, and the type of disease usually observed in particular localities, would constitute a valuable contribution to medical science, and facilitate the labors of the committee under the second resolution.

"Under the third resolution, a committee was appointed whose agreeable duty it will be to report upon the Medical Botany of Iowa. The floral riches of this beautiful and charming state, seem almost inexhaustible, and no one doubts that, amidst this profusion of nature's eloquent and poetic beauties, mines of medicinal wealth exist, from which the balm to many an ill, incident to our country, may be bountifully drawn. Numerous as are the blessings which spring from the bosom of our mother earth, they may be greatly multiplied by the assiduity of the medical botanist, and we sincerely trust a larger proportion of our physicians may be found devoting their attention to this subject. Our medical plants should be known and accurately classified in order that we may resort to the great storehouse of nature—the fields and the forests—where no mercenary hand mingles with their life-giving principles, the seeds of death.

"The next meeting of the Society will be at Fairfield, Jefferson county, on the first Wednesday of May, 1851."

The Medico-Chirurgical Journal (later Iowa Medical Journal) maintained a watchful care over Iowa medical interests in their infancy and the energies of the strong men of that day were unselfishly devoted to strengthening by voice and pen the professional activities they had set their hands to.

It has been noted in the editorial above referred to that high ideals were held by our first editorial writer. Seventy years have passed since the editorial was written and changes of immeasurable importance have occurred touching the dignity and character of the profession, and it is sincerely to be hoped that the Journal which represents the Iowa profession today has not fallen short in honest endeavor to maintain the same ideals.

It must be remembered that not more than one-half of the men practicing medicine in Iowa be-

tween 1850 and 1870 had received a medical degree and the number who had received a literary degree was very small indeed, and the true professional spirit was confined to comparatively few men. The profession as such did not stand very high in public esteem, it being looked upon only as a bread-winning business, but the individuals we refer to in these writings were big men and much honored in the state.

We are informed that the next (second) meeting of the state medical society will be at Fairfield, Jefferson county on the first Wednesday in May, 1851.

A vigorous editorial protest is made in relation to an unethical offer by the Evansville Medical College to admit the "Sons of Temperance" at one-half the regular fees in consideration of an agreement to recommend the school as in every way worthy of public confidence.

It appears that in 1851 some plans were being considered for contracts with families to render professional services by the year. In the March number (1851), is an editorial condemning this practice as being "unethical, mercenary and unworthy of the members of a dignified profession and savoring too much of the dealer of matches, the butcher, the ice man, etc." It does not appear that any movement materialized to establish this method of doing medical practice.

In the April, (1851) number, after giving notice of the meeting of the State Medical at Fairfield the editor asserts that "No state in the Union is less cursed with empiricism (except in patent medicines) than this. Thompsonianism, Homeopathy, Hydropathy, Electicism, and other forms of quackery have not as yet, taken root in our soil; and if the medical profession will unite in such associations as will promote the development and dissemination of the true principles of our science, its future growth will be effectually arrested."

In the June, (1851) Journal a rather exhaustive paper appears on "Medical Topography and Diseases of Iowa" by J. F. Henry, M.D. In those days the relation of climate to disease was regarded as very close, and climatic studies were much thought of.

It was during these early years that much jealousy existed among the proprietary medical schools and found expression in many editorials in official, or in friendly journals and the Keokuk Journal did not fail in this respect.

In August, 1853, the name of the Journal was changed from the Medico-Chirurgical Journal to the Iowa Medical Journal, edited by the faculty of the Medical Department of the Iowa Univer-

sity. It is to be presumed that Dr. J. C. Hughes was editor-in-chief although his name does not thus appear until some years later.

The Iowa Medical Journal first appeared monthly printed at the Whig Book and Job Office, subscription price \$2.00 annually in advance. Later the Journal appeared every alternate month, edited by Dr. J. C. Hughes, printed at the Gate City book and job rooms. Notwithstanding the announcement that the Iowa Medical Journal would appear every alternate month, numbers two and three, volume five, for January, February, March and April appeared in April, 1868 and number four, January and February, volume five, appeared in February, 1869. Numbers two and three, volume five, 1868, makes the first claim of being a real medical journal, as stated in the following language:

"Notice to exchanges: The fact that our first issue was an experiment and contained but little of medical interest having been used more particularly as a college circular, we did not present it for exchange to the medical journals of the country. Its publication now being a fixed fact, we most cordially ask our own and foreign journals to exchange with us. It is the only medical journal in the state and shall always be found ready to battle for the interests of science, the profession and its institutions." In this number (2 and 3, volume 5, 1868), there are sixty pages of reading matter, including also six pages of advertising; five drug stores, two hotels and one jewelry store, all in Keokuk. Hughes' Medical and Surgical Infirmary and Eye and Ear Institute use one page. In number one of the same volume (5) for November and December, twenty-two pages are devoted to the Transactions of the Twenty-first Annual Session of the Iowa State Medical Society and three pages to a paper on a "New Operation Upon the Shaft of Long Bones by which Elongation as well as Straightening May be Secured," by Professor J. C. Hughes.

We are informed that with the completion of the fourth volume the Iowa State Medical Journal suspended for several years, probably for a period of ten years.

The reason for the temporary suspension is given in the announcement for volume five in 1867:

"Gentlemen of the profession: Owing to the financial embarrassment of 1857-8 the Iowa Medical Journal, which had completed its fourth volume was suspended for want of material aid. The unsettled condition of the country since then, and my absence in Europe the last year, has prevented our embarking in the enterprise. As the

country is safe, and the profession are again heartily engaged in the active duties of civil life, I propose, should I receive the necessary encouragement from my professional brethren of my own and the adjoining states, to continue what I have now commenced—the publication of the fifth volume of the Iowa Medical Journal. For the present, it will be a bi-monthly of thirty-two pages—not so large as formerly, but costing the publisher more. Its size will be increased as rapidly as the proceeds will justify; and we hope, with the aid of our professional friends, to make the Iowa Medical Journal a welcome visitor to every lover of medical science in the West. Send us your \$2.00 at once. This encourages the printer, and is the pocket argument.

"Next in importance is your contributions, which will always be acceptable, if short and to the point, and more particularly if they contain facts and common sense.

"All letters and communications for the Journal may be addressed to J. C. Hughes, M.D., Keokuk, Iowa. Price \$2.00 per annum in advance. If not paid before the issue of the second number, the price will be \$3.00."

The Journal makes the following announcement to advertisers: "We would call the attention of the profession and all others interested to the cards of our citizens who have so liberally aided us in this, the first number of our Journal. They are all men of business and integrity, and are prepared to accommodate the profession and public with everything in their line upon the most reasonable terms."

The first number of volume five was for November and December, 1867; number 2, January and April, 1868; number 4, January and February, 1869. Notice appears in this last number that Dr. John F. Sanford, the founder of the Iowa State Medical Society "has abandoned his infirmary and is, we understand, about to withdraw from the profession. The Doctor has engaged in patent rights and life insurance. We know nothing of the company he represents, nor the patent lamp burner of which he is the author, but we trust that in his new sphere of action he will make it more remunerative than professional pursuits. The Doctor is well calculated to fill the new position, and we have no doubt of his financial success."

The first number of volume 5 was issued in December, 1867, and number 4 of the same volume was issued in February, 1869. In this number, Editor Hughes writes rather despondingly, evidently the profession of Iowa was not quite ready for a local medical journal. Another factor

had had its influence; the medical department of the State University had been established at Iowa City. It had been the fond hope of the Keokuk faculty that the medical department would remain permanently at Keokuk and that the Iowa Medical Journal would serve as an advertising medium for the medical school but now the Journal must exist as an independent organ with an uncertain support.

In number four the editor states that: "We regret the irregularity that has thus far characterized the issue of the fifth volume of the Journal. But while we say that sickness of the editor and a want of proper support from the profession, has caused it, we may say but the truth. We again appeal to our friends to give us the proper encouragement, and we will try again. But if the profession expect us to edit it, pay for it, and take the curses which attach to the position, they will find an editor suddenly withdraw from the assumed honors fully convinced that glory of this kind will not pay."

The editor evidently kept his word for the Journal suddenly disappeared. Whether volume five was completed we do not know, for number four was the last number we have been able to discover. Editing a medical journal is not one of the most encouraging employment a man can engage in, and yet there is something attractive in it, that cannot be measured by dollars and cents. There is something in keeping in touch with a profession that the world cannot do without. It is probably true that well people say things, and do things about doctors, that are not always complimentary, or pleasant, but the time comes when almost every man and woman anxiously turns to the doctor as the best and most desirable of all human beings. Trade, commerce and all the world, depends upon medical science for health, safety and happiness in all their activities. It may be now, that the pills and powders of our first editor, are about to give place to health and welfare activities and organization which will render the personal attention of the Doctor in great measure unnecessary.

It must be remembered that when Dr. J. C. Hughes wrote the discouraging editorials, Iowa was thinly settled, transportation slow and uncertain, and not far from one-half of the medical profession had never even had the advantages of a two-term course of sixteen weeks medical college training and only a common school education as a preparation; mental culture was not then a weakness among the doctors as it is now, although we have seen a six months' supply of the state and national journals without the wrappers

disturbed unless by cobwebs.

In 1895 the Iowa Medical Journal again appeared with Dr. J. W. Kime of Fort Dodge as editor. The first number bears the date April, 1895. The editor states: "The plan of this Journal is somewhat unique in medical journalism. It will be edited in a number of independent departments, each having its own special editor and collaborators and will be expressly for the profession of Iowa, its columns being open only to the physicians of this state though collaboration will be made from every available source. The Journal will be edited in ten departments, practically covering the field of medicine and surgery."

The first volume contained 710 pages and presented a very creditable appearance showing that the editor was well fitted for the undertaking. Dr. Kime in July, 1900 on account of other interests transferred the Journal to Dr. E. E. Dorr of Des Moines. The following announcement appears in the July number:

"The Iowa Medical Journal has changed hands. The new management has an ambition to make this publication a credit to the profession and useful to every patron. It hopes to make it the duty and the pleasure of every physician in the state to patronize it and take pride in its success. It will study the interests of legitimate practice and defend the right of the craft. It will strive to be useful in all ways to those who maintain it, keeping in mind always the public good as well as the interests of its class. It believes in the highest professional attainments and in most loyal citizenship, in professional duty and in patriotic effort. To these ends we will be glad to hear from those we aspire to represent, and will put the enclosures where they will do the most good.

"The Iowa Medical Journal is established. It has stood the test for six years, and is representative of Iowa progress. We propose to make it essentially an Iowa Journal for Iowa physicians, practical in every branch. The general practitioner whom we hope to make our friends are all busy men and find time only to read the medical journals between calls, so we take it that short, practical articles will be appreciated.

"This journal is non-partisan and non-scholastic, standing simply and alone for the broad interests of our beloved profession.

"Dr. Walter L. Bierring of Iowa City, professor of pathology in the university, will correspond from the pathological department. His prominence in the profession and in the State Medical Society makes it unnecessary for us to introduce him.

"Dr. W. W. Pearson of Des Moines will have

charge of the eye, ear, nose and throat department of the Journal, and the readers are assured of an up-to-date department.

"Dr. E. L. Stevens will have charge of the department of medicine and those of you who have ever come in contact with the doctor will recognize in him a man who will furnish only the best and keep his department up-to-date.

"This will constitute the advisory staff of the Iowa Medical Journal at present. We ask your co-operation in this work so that the physicians, our neighbors, brothers, all of us, may be mutually benefited."

The Journal remained an entirely independent organ until 1906 when the Iowa State Medical Society contracted with Dr. Dorr to publish its transactions for a period of five years assuming nominal control through a committee on publication.

At the close of the five year period the House of Delegates of the State Medical Society organized a Journal of its own in accordance with a plan generally adopted by State Medical Societies under the name of the Journal of the Iowa State Medical Society with Dr. Fairchild as editor. The Iowa Medical Journal continued as a private medical journal edited by Dr. E. E. Dorr until June, 1914, when it was purchased by the Iowa State Medical Society and merged with the Journal of the State Society.

The Iowa State Medical Reporter was organized in 1883 with Dr. F. E. Cruttenden of Des Moines as editor and publisher.

In the first or July number, 1883, the editor makes the following appeal to the medical profession of Iowa: "With this number our medical staff feel that they are stepping forward with open hands, to every regular practitioner in the State of Iowa, inviting a cordial co-operation and asking for a personal interest in the object, in the welfare, and in the columns of the Iowa State Medical Reporter. Has the time come that we need it? Will it receive nourishment and live? These questions, touching the vitality of all new projects, have cast their shadows on us."

In the June number, 1884, the editor announces the end of the first volume in an editorial not particularly encouraging. The financial returns did not warrant an increase in size, but hopes for something better in the future, and states: "During the coming years, the Reporter will be under the following management: editor and publisher, F. E. Cruttenden of Des Moines; associate editorial staff, C. M. Hobby, Iowa City; L. C. Swift, Des Moines; D. S. Fairchild, Ames; W. L. Allen, Davenport, and H. B. Young, Burlington."

The first number bears the date July 1, 1883. The journal was published monthly and the twelve numbers contained 182 double column pages. The Reporter continued for a period of three years when it was discontinued on account of the demands of the private business of the editor, Dr. F. E. Cruttenden.

The Interstate Medical News, an independent medical journal of medicine, surgery and allied sciences. J. H. Talbot, M.D., editor; Charles M. Wade, M.D., associate editor, and publisher. A journal bearing the above title appeared in Sioux City, published quarterly. The first number appeared February 15, 1895 and contained thirty-eight pages. The announcement was a modest one, not even explaining its purposes or hopes. Two numbers appeared and then suspended publication, we assume for the want of financial support.

In 1900 Dr. Woods Hutchinson of Des Moines entered the field of Iowa medical journalism by editing and publishing an attractive journal bearing the title of *Vis Medicatrix Nature*. Notwithstanding the skill of a brilliant editor the journal survived only nine months.

About this time another medical journal appeared in Des Moines edited by Dr. Overton. It did not appear regularly, or apparently have any definite purpose. It soon disappeared.

We have endeavored to trace in a brief outline, the history of medical journalism in Iowa. The difficulties were great and the financial returns small.

The Iowa Medical Journal first edited and published by Dr. J. W. Kime of Fort Dodge, was the first to take on the form and character of a real medical journal.

A reference to the first volumes of this Journal will reveal evidence of careful editing, admirable form and execution, but it proved then, and has proved since that local private medical journalistic undertakings involves a vast amount of work with small returns, if not actual loss. It is doubtful if the profession, realize how much work is involved in publishing a medical journal. The difficulty is not so great when the circulation is guaranteed as in the case of the state society journals. Even with the state journals, the rapidly increasing medical activities, the more complex economic relations of the profession and the complicated interests places the editor often in an unenviable position.

There is an opening for a good physician in a town of about 1000 population, surrounded by a good agricultural district, in the southern part of the state. Address this Journal.

The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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OFFICE OF PUBLICATION, DES MOINES, IOWA

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No. 10

FACTS IN THE LAY PRESS THAT SHOULD BE THOUGHT OF

A number of the Literary Digest for July, contains two articles abstracted from the scientific press, and comments on what may be a source of danger to individual practitioners. The first relates to the electrocardiograph, which is described in a very interesting way as a marvel of ingenuity, and delicacy of construction, by which the action of the heart may be revealed with great accuracy. It is shown that an exceedingly delicate instrument is placed on the arm of the patient, and is connected by delicate electric wires at a considerable distance to a recording instrument which shows just what the heart is doing. A demonstration was the wonder of the witnesses (doctors) and a revelation."

The inference to be drawn was, that by this marvelous instrument the condition of the heart could be determined by instrumental means. We have known of the electrocardiograph for eight or ten years, and we have known of its value in certain cases when the readings can be interpreted by highly trained observers. We have known also, that the most experienced heart experts use their brains first of all, by the use of a simple stethoscope, and in certain cases, resort to the electrocardiograph as an auxilliary means of determination. An expert like Dr. Babcock rarely uses this wonderful instrument not because he does not know how, we may fairly presume. Prof. Howard says something about its use in the

August number of the Journal. We must not let it go out, that if we do not use the electrocardiograph, we are negligent.

In a second article it is stated that there is absolutely no danger of x-ray burns in roentgenology. This is probably true if the x-ray is used with care and skill. We are confronted from time to time with malpractice claims for x-ray burns. We are not denying the statement made by the Literary Digest, but pointing out the danger. Roentgenology is recognized as a profession in itself of a highly technical character. The fact the operator is a physician, is not evidence that he is a trained technician, and in the light of the Literary Digest article, he would be held liable in damages for an x-ray burn.

The Arkansas Supreme Court has held that roentgenology is a highly technical profession, and that the roentgenologist is liable, and not the physician who employs him, provided the physician has exercised reasonable care in the employment. We notice from the lay press that a considerable number of physicians are installing x-ray apparatus who may not be experts, and unless they meet the court and Literary Digest conditions they are in daily danger of damage suits. The physician is in constantly increasing danger of damage claims and must not expect much sympathy from juries. The public now know if he does not use the electrocardiograph in serious heart cases, or he gets an x-ray burn from not possessing a highly technical training in roentgenology, he is liable to more or less heavy damages. No one can deny the truth of the claim made by the lay press; therefore get together and provide that the hospital is equipped with these instruments of precision; do away with the petty jealousies; get rid of the fee dividers, and join in providing the means of diagnosis that are generally accepted by the profession and are known to the public, then our malpractice suits will disappear and the chiropractor, Christian scientists, and others of a similar character will lose much of their capital.

The Sheppard-Turner Maternity Bill and the Moses Amendment are subjects of heated discussion. The first question that appeals to us is the question if maternity conditions are all they should be.

The evidence from every direction seems to show that they are not. The opinion as expressed in medical literature in this country and in England, indicates that the mortality is much too high. Both the British Medical Journal and the Lancet show that the death rate from infection in con-

finement has not declined in any proportion to infections in surgical cases; in fact has rather increased, the same is true in this country.

The alarming condition has attracted the attention of the interested layman and while the agitation, as it comes from lay bodies, may not be the most intelligent or reliable, the discussion will bring results. In the present state of affairs the statement that physicians and medical societies are vigorously opposed to this legislation, will only cast suspicion on the profession as being influenced by selfish motives. The objection being that the bill will place too much power in the Federal Children's Bureau. We are not informed that this will be a detriment to the welfare of mothers, but will be damaging to doctors who fear "Centralized Federal Coercion." The Moses Maternity Bill would provide local maternity hospital under local, county and state authorities. The most important provision of any maternity bill is the provision for a hospital service of such a character that all of the industrial classes, the wage and the salary earners may be provided for. It seems such a pity that the real and essential issue is lost sight of in the struggle for personal "influence" and perhaps gain.

There is abundant evidence to show that in lying-in hospitals, the incidence of septic infection is very small while in private practice in homes there has been no material change in the last twenty-five or thirty years. The reason for this state of affairs is apparent enough; we have only to consider that a confinement case should be considered as a serious surgical case and treated accordingly. While child-bearing is a physiological function, the care should be surgical care under aseptic precautions. We are informed that 40,000 mothers lose their lives in the United States every year from septic infection; this sad state of affairs should not exist. There is no reason why every confinement case in Iowa should not be conducted in a hospital fairly well equipped for this work. There can be no doubt that it should be our duty to scrutinize every bill offered in the legislature or in congress for evidences of real benefit; there are too many well meaning organizations or groups that are fostering measures more sentimental than useful. Let our attitude be such as to inspire confidence in lay bodies that it is worth while to consult us in welfare measures! It is gratifying to notice in the lay press, that in many county medical societies aggressive measures are being taken to cooperate with groups and organizations in furthering welfare measures.

THE MEDICAL LIBRARY ASSOCIATION

By John Ruhrah

This is a national association, including most of the larger medical libraries and many of the smaller ones, as well as a large number of individual members who are recruited from those of the profession or laymen who are interested in medical libraries, and medical literature.

The association was founded in 1898 by Dr. George M. Gould, its first president, in connection with Sir William Osler. The object of the association is the fostering of medical libraries, and maintenance of a system of exchange of medical literature among them. Any medical society, association, university or college having a fixed home, and a library of at least 500 volumes, with a librarian, or other attendant, in charge, is eligible for membership. The libraries pay \$10 a year dues, and may be represented at the annual meeting by two persons. The individual members pay \$5 per year.

The association has resulted in uniting together those interested in a betterment of conditions in medical libraries. The annual meetings have afforded opportunities for interchange of opinions on topics relating to medical library work, the end in view being the placing of the up-to-date tools, that is the medical books and journals, in the hands of the profession. The annual meetings have been held in various places and have afforded librarians an opportunity to inspect the various libraries, both medical and otherwise. There has been the development of a splendid esprit de corps among the medical librarians. The association maintains an exchange, which is a sort of clearing house through which books and journals are sent from one library to another. This is in no sense done on a business basis, the larger libraries giving freely, and the smaller one's receiving, but even much material is received by the larger libraries.

The headquarters of the association are at 1211 Cathedral street, Baltimore, Maryland, and all communications should be sent to this address. We shall be pleased to have applications for individual or library membership, or contributions of books, reprints or funds to carry on the work.

Presidents of the Medical Library Association

Dr. G. M. Gould, 1898-1901; Sir William Osler, 1901-1904; Dr. J. R. Chadwick, 1904-1905; Dr. A. Jacobi, 1905-1906; Dr. George Dock, 1906-1909; Dr. J. H. Musser, 1909-1912; Mr. C. Perry Fisher, 1912; Dr. J. C. Wilson, 1912-1913; Dr. F. R. Packard, 1913-1914; Lieut.-Col. C. C. McCulloch, Jr., 1914-1916; Dr. L. H. Taylor, 1916-1917; Dr. William Browning, 1917-1919; Lieut.-Col. F. H. Garrison, 1919-1920; Dr. John W. Farlow, 1920-1921; Dr. Lewellys F. Barker, 1921-

AMERICAN PUBLIC HEALTH ASSOCIATION

The American Public Health Association announces four phases of its semi-centennial celebra-

tions to be held in New York City, November 8-18, 1921:

(a) The Scientific Sessions will be held November 14-18. There will be programs of the following sections: Laboratory, Vital Statistics, Public Health Administration, Sanitary Engineering, Industrial Hygiene, Food and Drugs. There will also be special programs on Child Hygiene and Health Education and Publicity.

(b) Health Institute, November 8-12. During the week preceding the convention proper there will be organized demonstrations of the various types of public health activity in New York and environs: Health Department bureaus, laboratories, health centers, clinics, hospitals, etc.

The purpose will be to show health functions in actual operation, especially those which may be duplicated in other cities. In one sense the Health Institute may be considered as a school of instruction in practical health administration.

(c) Dr. Stephen Smith, the founder and first president of the association, who is now in his ninety-ninth year, will be the guest of honor at a banquet to celebrate his approaching centennial and the semi-centennial of the association.

(d) A Historical Jubilee Volume, "Fifty years of Public Health," will be published about October 1. There will be articles by seventeen authors, relating to the accomplishments and present status of each of the important branches of public health. While concentrating upon the public health of the last fifty years, the book will describe the earlier beginnings of public health in an introductory way, and may, therefore, be considered a general history of public health from the earliest days to the present.

Detailed announcements, programs, and information concerning special railroad rates will appear in the American Journal of Public Health and the news letter of the association from time to time or may be had upon addressing the association at 370 Seventh avenue, New York City.

THE TOXICITY AND TRYPANOCIDAL ACTIVITY OF SODIUM ARSPHENAMIN

In parasitic disease in which specific remedies are applied to destroy the micro-organism, the value of the drug is determined by the chemotherapeutic index, i. e., the relation of the curative dose to the maximum tolerated dose. The authors have studied sodium arsphenamin and compared it with arsphenamin and neoarsphenamin. In this article which is the third of a series on the subject, they give tables showing the toxicity and trypanocidal activity of sodium arsphenamin and also a table indicating the therapeutic indexes of the three drugs.

In summarizing, the following facts are emphasized:

1. The highest tolerated dose of sodium arsphenamin for white rats by intravenous injection was found to be from 212 to 215 mg. per kilogram of

weight. The average tolerated dose of arsphenamin was 105 mg., and of neoarsphenamin, 200 mg. per kilogram.

2. The smallest trypanocidal doses of sodium arsphenamin varied from 16 to 24 mg. per kilogram of weight; the smallest trypanocidal dose of arsphenamin was 5 mg. and of neoarsphenamin, 9 mg. per kilogram.

3. The therapeutic dose (*dosis curativa*) of sodium arsphenamin was from eight to thirteen times less than the highest tolerated dose (*dosis tolerata*) which expresses the therapeutic index of this compound. The therapeutic dose of arsphenamin was twenty-one times less than the tolerated dose, and the therapeutic dose of neoarsphenamin was twenty-two times less.

4. Therefore, while sodium arsphenamin possesses the low toxicity of neoarsphenamin, it is much inferior to both arsphenamin and neoarsphenamin in trypanocidal or curative activity.

5. The true gage of a remedy is expressed by its chemotherapeutic index, i. e., the relation of the curative to the toxic doses.—Jay Frank Schamberg, John A. Kolmer, and George W. Raiziss, The American Medical Association Journal, Vol. lxxvi, No. 26 June 25, 1921.

MEDICAL NEWS NOTES

Clinics Building

As soon as the ground can be cleared work will be started on a \$65,000 two-story clinic building on the old Early property, corner of First avenue north and Tenth street. The building will be put up by the Physicians' Building Company of Fort Dodge and will be devoted to the offices, laboratories and operative rooms of nine of Fort Dodge's leading physicians.

The nine physicians and surgeons, each a specialist in his line, who will occupy the proposed new building are: Dr. Robert Evans, Dr. W. W. Bowen, Dr. J. F. Studebaker, Dr. A. H. McCreight, Dr. Sumner Chase, Dr. C. G. Field, Dr. Jones, Dr. A. A. Schultz, and Dr. E. F. Beeh. The members of the Physicians' Building Company, which owns the property and will erect the building are Dr. J. F. Studebaker, Dr. Sumner Chase, Dr. Schultz, Dr. Fields, Dr. Jones and Dr. Beeh.

The proposed building will occupy an area of 40 by 140 feet and is to be of reinforced concrete construction at present two stories and basement in height, but with columns and footing of sufficient strength to eventually make a six-story building, the upper floors above the clinic to be divided into apartments.

The floors will be of cement hardened, corridor floors or terrazzi with imitation Caen stone wainscot entrance, the lobby, which contains one elevator, and the stairway floor to be of tile with a marble wainscot. The exterior trim will be of matt glazed terra cotta.

All the latest innovations and improvements in the lines of office equipment will be incorporated in this building, which, when completed, will be one of the finest of its kind to be found anywhere. In addition to the rooms above specified, there will be a drug room and several recovery rooms. There will be from eighteen to twenty rooms on each floor.

Limiting Doctors' Fees

Johns Hopkins Hospital, an adjunct to the Johns Hopkins University at Baltimore, Maryland, has done a splendid thing for humanity in limiting the fees that doctors are to be allowed for surgical operations and care of patients in hospitals.

For a number of years, the medical profession has suffered by the mercenary methods of a number of the famous doctors of the country. It has become a practice to charge all the traffic would bear. If a patient was wealthy, these doctors figured up what they could bleed him for. The charge was in proportion to his ability to pay. Ten thousand dollars has been charged for a single operation that did not take the surgeon more than an hour or two to do. Even people of moderate means have been mulcted to the limit. The whole medical profession has suffered because of the mercenary methods of these supposed leaders.

In many cases, it amounted to the same as if a man stood on the bank of a river watching a man drown and refusing to rescue him unless the victim would agree to give 10 or 20 per cent of his worldly possessions.

Before these ghouls render a bill for service, they have an investigation made of the patient's property and income as carefully as if they were selling him a high priced automobile on time. Yes this is a step in the right direction.—Manson Journal.

The dictum of the Johns Hopkins University in regard to surgeons' fees has stirred up the doctors. It was to the effect that no surgeon should charge any patient (no matter how wealthy) more than \$1000 for an operation, nor more than \$35 per week for attention to a patient in a hospital. The lay public will think that Johns Hopkins left prices plenty high. Most people don't care what the surgeons charge the millionaires, but contend that in frequent instances the surgeons take members of the common herd for millionaires and charge accordingly. It does look that a surgeon could make a fair living even if he doesn't charge over \$1000 for any operation.—Knoxville Express.

The Muscatine Journal announces that word from Minneapolis to his attorney is that the conviction of Dr. Walter Matthey of Davenport, under the espionage act, has been affirmed by the United States Court of Appeals here.

United States District Attorney Moon of the southern Iowa district has been notified.

Dr. Matthey is one of the most prominent and

wealthy physicians of Davenport. He was indicted in connection with the Daniel H. Wallace meeting held in Davenport, July 25, 1917. Wallace, who was a deserter from the British army, attacked Great Britain, the other allies against Germany and Belgium, Dr. Matthey presided at the meeting. There was a pro-German demonstration. Wallace was convicted and sentenced to a twenty-year term in Fort Leavenworth, dying there later.

Dr. Matthey was tried and the jury disagreed. On his retrial a year later he was convicted and Judge Wade sentenced him to a year and a day in Fort Leavenworth. It was from this judgment that he appealed in vain.

Surgeon's Fees

Johns Hopkins Hospital has stirred up a fine controversy by its announcement that hereafter surgeons' fees for operations performed there shall not exceed \$1000. The medical profession is much interested in knowing whether this innovation is to be followed elsewhere. The public is interested, too, because the problem of surgeons' fees comes home to almost every family sooner or later.

Though comparatively few surgeons ever charge more than \$1000 for an operation, surgeons as a class object to having any arbitrary limit fixed. They admit that it is the usual practice to charge roughly according to what the traffic will bear, and defend it on the ground that if they overcharge the rich it is to enable them to undercharge the poor and thus put expert surgery within the means of every class. There is much to be said for this procedure. Perhaps there is justice in the custom of some surgeons of charging a fixed percentage of the patient's income—some make it 10 per cent—for a major operation. General practitioners, however, are not so enthusiastic about defending the specialist's right to set his own fee in every case. And that is natural. The all-around doctor is likely to be overworked and underpaid, while the surgical specialist of no greater ability may grow rich without undue exertion. It is a problem which the profession as a whole will have to face, sooner or later, laying down definite principles to determine the size of fees for various kinds of medical service.

This same precedent is a challenge to certain other professions, too. If a doctor's fee can be regulated for him, why not a dentist's? And more particularly, a lawyer's? There is a wider range of charges in the law than in medicine. Will bar associations ever stand for limitation of fees?—Charles City Press.

The Surgeon's Fee

The intention back of the action of the trustees of Johns Hopkins Hospital in limiting the amount which a surgeon may charge for an operation to \$1000 and the amount which a physician may charge for attending a patient in the hospital to \$35 a week is no doubt commendable. And the chances are that this fixing of maximum fees is eminently wise, since

it is only reasonable to suppose that an institution admittedly the best of its kind in America, and possibly in the world, is in a position to see clearly in such matters. Also it is undeniable that instances have been known where surgeons and physicians have demanded exorbitant pay for their services.

Yet, admitting all this, it would appear to the layman that the hospital would have done better if it had not issued its dictum. Surgeons and physicians, as a class, may be trusted to exercise common sense in making their charges; and the custom said to be prevalent among many of them to charge a patient a certain percentage of his income has much of justice about it.

With society constructed as it is today—with the extremes of poverty and wealth on either end—it is obviously impracticable for a practitioner to adopt a fixed price for his services, unless he should make that price ridiculously low, so low in fact, that it would jeopardize his own livelihood. A physician or surgeon, for instance, who fixes his fee for office rates at \$25 automatically takes away from the poor the possibility of getting his services, while at the same time he confers no great boon upon the rich, who might just as readily pay him \$50. It is a realization of this fact that has brought about the sliding scale of charges which obtains in the profession at present.

Surgeons who oppose the Johns Hopkins ruling contend with much truth that they are enabled to treat the poor who cannot pay, only because they can make up for it by the fees they charge the rich. They do not mean that they make the rich actually pay for their services to the poor, but that the sums they get from the rich make it possible for them to give time and attention to charitable work and at the same time make a living.—Sioux City Journal.

Dr. William S. Thayer

Dr. Thayer, believing that a younger man was needed at the head of the department of medicine in Johns Hopkins University, tendered his resignation to take effect July 1, and will then resume private practice. Dr. Thayer has been connected with Johns Hopkins for a little more than thirty years.

Dr. Thayer will be succeeded by Dr. G. Canby Robinson of Vanderbilt University, Nashville, Tennessee.

Sealed bids will be received up to August 24, 1921, 10 o'clock p. m., to conduct a daily county clinic and furnish medical and surgical services and supervise the care and custody of all persons isolated, interned or quarantined in the City of Clinton, under the provisions of Chapter 299 of the Laws of the Thirty-eighth General Assembly, and

That when necessary to administer anesthetics and assist in surgical operations, he may employ an assistant; but, when such employment is made, the compensation shall be one-half ($\frac{1}{2}$) the usual fee charged for like service in private practice.—John W. Strohm, County Auditor.

Physical Examination in France

According to reports, physical examination of young men in France is to be compulsory. Of more than 300,000 eligibles for service, only 165,000 measured up to the ordinary physical standard. Doctors recommend the passage immediately of a law making physical education compulsory in all French schools.

Health Insurance in Sweden

A commission has reported favorably on the introduction of compulsory health insurance and maternity insurance in Sweden.

PROGRAM OF ANNUAL ASSEMBLY, TRI-STATE DISTRICT MEDICAL ASSOCIATION

Milwaukee, Wisconsin, November 14, 15, 16 and 17, 1921.

Headquarters for general meeting and clinics: Auditorium—Fifth street, between State and Cedar.

First Day—Monday, November 14, 7 a. m.

1. Diagnostic Clinic (Medical).
Dr. Frederick Tice, Professor of Clinical Medicine, University of Illinois, College of Medicine, Chicago, Illinois.
2. Diagnostic Clinic (Surgical).
Commander William Seaman Bainbridge, United States Navy, Medical Department, New York, New York.
Intermission.
3. Diagnostic Clinic (Medical).
Dr. Charles P. Emerson, Dean and Professor of Medicine, Indiana University, School of Medicine, Indianapolis, Indiana.
4. Diagnostic Clinic (Surgical).
Dr. Hugh Cabot, Dean and Professor of Surgery, University of Michigan, Medical School, Ann Arbor, Michigan.

Afternoon Session, 1 p. m.

5. "Carcinoma of the Esophagus and its Treatment with Radium," (with pictures), Dr. C. W. Hanford, Chicago, Illinois.
6. "Recent Advances in Chemistry as Aids in the Practice of Medicine," Dr. Harold C. Bradley, Professor of Physiological Chemistry, University of Wisconsin, Madison, Wisconsin.
7. "Some Considerations of the Graham Steell Murmur," Dr. Frederick Tice, Professor of Clinical Medicine, University of Illinois, College of Medicine, Chicago, Illinois.
8. "Errors in Orthopaedic Diagnosis," Dr. Reginald H. Sayre, Professor of Orthopaedic Surgery, University and Bellevue Hospital, Medical College, New York, New York.
Intermission.
9. "X-Ray Treatment of Carcinoma of the Breast,"
Dr. Arthur W. Erskine, Cedar Rapids, Iowa.
10. "Type and Treatment of Severe Anemia," Dr.

Alfred Stengel, Professor of Medicine, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

Evening Session, 7 p. m.

11. "Recent Development in Tardy Malnutritions of Childhood," Dr. H. C. Blankmeyer, Springfield, Illinois.
12. "Some Aids to Diagnosis in Medicine," Dr. Henry Enos Tuley, Dean and Professor of Pediatrics, University of Louisville, School of Medicine, Louisville, Kentucky.
13. "Actinomycosis—Diagnosis and Treatment," Dr. Paul White, Davenport, Iowa.
14. "Hyperthyroidism," Dr. William E. Schroeder, Chicago, Illinois.
15. "The Treatment of Chronic Nephritis," Dr. Charles P. Emerson, Dean and Professor of Medicine, Indiana University, School of Medicine, Indianapolis, Indiana.

Second Day—Tuesday, November 15, 7 a. m.

1. Diagnostic Clinic (Pediatrics).
Dr. J. Claxton Gittings, Professor of Pediatrics, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.
2. Diagnostic Clinic (Surgical).
Dr. Arthur Dean Bevan, Professor of Surgery and Head of Surgical Department, Rush Medical College, Chicago, Illinois.
- Intermission.
3. Diagnostic Clinic (Medical).
Dr. Alfred Stengel, Professor of Medicine, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.
4. Diagnostic Clinic (Surgical).
Dr. Reginald H. Sayre, Professor of Orthopaedic Surgery, University and Bellevue Hospital, Medical College, New York, New York.

Afternoon Session, 1 p. m.

5. "Hemorrhoids and Hemorrhoidectomies," Captain A. M. Fautleroy, M. C., U. S. Navy, U. S. Naval Hospital, New York, New York.
6. "Clinical Interpretation of Blood Chemistry Findings in Diabetes and Nephritis," Dr. Frank Wright, Chicago, Illinois.
7. "Tumors of the Breast," Dr. Arthur Dean Bevan, Professor of Surgery and Head of Surgical Department, Rush Medical College, Chicago, Illinois.
- Intermission.
8. "The Effect of Occlusion of the Coronary Arteries on the Heart's Action and its Relationship to Angina Pectoris," Dr. Warfield T. Longcope, New York, New York.
9. "Memory Defect of Korsakoff Type Observed in Multiple Neuritis Following Toxemia of Pregnancy," Dr. Frank A. Ely, Des Moines, Iowa.
10. "A Neglected Factor in Surgical Infections," Dr. Hugh Cabot, Dean and Professor of Surgery, University of Michigan, Medical School, Ann Arbor, Michigan.

Evening Session, 7 p. m.

11. "A Disease in Childhood which Commonly Is Unrecognized," Dr. J. Claxton Gittings, Professor of Pediatrics, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.
12. "Surgical Treatment of Fractures," Dr. John M. Dodd, Ashland, Wisconsin.
13. "Various Problems Met with in Fractures of Both Bones of the Forearm—Mechanically and Surgically," (lantern slides), Dr. Paul B. Magnuson, Chicago, Illinois.
14. "Grafts of Whole Substance Bone," Dr. John P. Lord, Professor of Orthopaedic Surgery, University of Nebraska, School of Medicine, Omaha, Nebraska.
15. Discussion of Last Three Papers Led by Dr. Reginald H. Sayre, New York, New York.
16. "The Thyroid Gland and Intestinal Stasis," Commander William Seaman Bainbridge, United States Navy, Medical Department, New York, New York.

Third Day—Wednesday, November 16, 7 a. m.

1. Diagnostic Clinic (Medical).
Dr. Warfield T. Longcope, Recent Professor of Medicine, Columbia University, College of Physicians and Surgeons, New York, New York.
2. Diagnostic Clinic (Surgical).
Dr. Charles H. Frazier, Professor of Neurosurgery, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.
- Intermission.
3. Diagnostic Clinic (Gynecological).
Dr. William P. Graves, Professor of Gynecology, Harvard University, School of Medicine, Boston, Massachusetts.
4. Diagnostic Clinic (Surgical).
Dr. George Armstrong, Professor of Surgery, Faculty, McGill University, Montreal, Quebec.

Afternoon Session, 1 p. m.

5. "Goitre Work" (with movie film), Dr. Edwin P. Sloan, Bloomington, Illinois.
6. "Physiology and Embryology of Colonic Stasis," Dr. George Armstrong, Professor of Surgery, Faculty, McGill University, Montreal, Quebec.
7. "The Problems of Intra-Cranial Surgery Relating to Brain Tumors," Dr. Charles H. Frazier, Professor of Neurosurgery, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.
- Intermission.
8. "A Consideration of the Basal Metabolic Rate in Surgical Treatment of Diseases of the Thyroid Gland," (illustrated), Dr. Reginald H. Jackson, Madison, Wisconsin.
9. "Symptoms and Signs of Foreign Bodies in the Bronchi," Dr. Thomas McCrae, Professor of Medicine, Jefferson Medical College, Philadelphia, Pennsylvania.
10. "Foreign Bodies in the Air Passages from the

Viewpoint of the Roentgenologist," Dr. Willis F. Manges, Professor of Roentgenology, Jefferson Medical College, Philadelphia, Pennsylvania.

Evening Session, 7 p. m.

11. "Surgical Aspects of Uterine Malposition," Dr. Joseph A. Pettit, Professor of Surgery, University of Oregon, School of Medicine, Portland, Oregon.
12. "An Interesting Intestinal Case," Dr. George W. Koch, Sioux City, Iowa.
13. "The Program of the American College of Surgeons," Dr. Franklin Martin, Chicago, Illinois.
14. "Non-tuberculous Pulmonary Infections," Dr. John H. Peck, Des Moines, Iowa.
15. "A Critical Study of an Organism Associated with a Transplantable Carcinoma of the White Mouse," Dr. John W. Nuzum, Chicago, Illinois.
Smoker.

Fourth Day—Thursday, November 17, 7 a. m.

1. Diagnostic Clinic (Medical).
Dr. Thomas McCrae, Professor of Medicine, Jefferson Medical College, Philadelphia, Pennsylvania.
2. Diagnostic Clinic (Surgical).
Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.
Intermission.
3. Diagnostic Clinic (Medical).
Dr. Henry A. Christian, Hersey Professor of the Theory and Practice of Physic, Harvard University, School of Medicine, Boston, Massachusetts.
4. Diagnostic Clinic (Surgical).
Professor H. C. Jacobaeus, Serafiner Hospital, Stockholm, Sweden.

Afternoon Session, 1 p. m.

5. "Role of Ovary in Pelvic Surgery," Dr. William P. Graves, Professor of Gynecology, Harvard University, School of Medicine, Boston, Massachusetts.
6. "Variations in Abdominal Viscera as Found in the Anatomical Laboratory of the State University of Iowa," Dr. Henry J. Prentiss, Iowa City, Iowa.
7. "The Surgical Aspects of Diverticulitis of the Colon," (lantern slides), Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.
Intermission.
8. "A Treatment for Chronic Malign Diseases of the Superficial Lymph Glands." Dr. J. L. Yates, Milwaukee, Wisconsin.
 - (a) Laboratory Aspect, Dr. C. H. Bunting, Madison, Wisconsin.
 - (b) Surgical Aspect, Dr. W. J. Mayo, Rochester, Minnesota.
 - (c) Medical Aspect, Dr. Frederick Tice, Chicago, Illinois.
 - (d) Roentgenological Aspect, Dr. Otto H. Foerster, Milwaukee, Wisconsin.

9. "The Relation that Exists between Hypertension, Myocarditis and Nephritis," Dr. Henry A. Christian, Hersey Professor of the Theory and Practice of Physic, Harvard University, School of Medicine, Boston, Massachusetts.
10. "The Thoracoscopy and its Practical Use," Professor H. C. Jacobaeus, Serafiner Hospital, Stockholm, Sweden.

Banquet

Thursday, November 17, 7 p. m.

Addresses

Eminent members of the profession who are guests of the Association, distinguished citizens of the United States, presidents of state societies.

Notes:

Dr. John G. Clark, Professor of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania, has accepted a place on the program on condition that he return from the Orient in time for the assembly. Dr. Clark has sent in the subject of his address as follows: "The Use of Radium in Gynecology," also "The Anatomic Principles Underlying Plastic Operations." (Illustrated with lantern slides and clay modeling.)

Dr. Geo. W. Crile, Cleveland, also will be on the program.

Professor De Quervain of Berne, Switzerland is expected as one of the foreign guests at the assembly.

All physicians who are in good standing in their state societies are urged to attend the assembly. Bring your ladies and come and stay throughout the meeting. The Milwaukee physicians are preparing to give the doctors a hearty welcome.

DR. GEORGE V. I. BROWN, Milwaukee, Wis.,
President.

WILLIAM B. PECK, Freeport, Ill.,
Managing Director.

DOMER G. SMITH, Freeport, Ill.,
Secretary-Treasurer.

Program Committee

DR. HORACE M. BROWN, Milwaukee, Wis.,
DR. T. B. THROCKMORTON, Des Moines, Ia.,
DR. DON DEAL, Springfield, Ill.

SOCIETY PROCEEDINGS

Austin Flint-Cedar Valley Medical Society

The meeting of the Austin Flint-Cedar Valley Medical Society, Clear Lake, Iowa, July 19, 20 and 21 was called to order by the president, Dr. Phillips, at 1:30 p. m. July 19. The minutes of the last meeting were read and approved. The program was rendered as printed with the exception of the paper of Dr. Shellito of Independence. It was as follows:

Skin Clinic—Dr. J. F. Auner, Des Moines, Iowa.

Fractures and the Treatment of Fractures, with lantern slide demonstration—Dr. O. C. Morrison, Carroll, Iowa.

The Hospital and Laboratory as an Aid in the Diagnosis and Treatment of Diabetes—Dr. E. L. Rohlf, Waterloo, Iowa.

Syphilitic Aortitis: A Cause of Sudden Death, with Autopsy Specimens—Dr. L. R. Woodward, Mason City, Iowa.

Acute Inflammations of the Abdomen—Dr. D. W. Ward, Oelwein, Iowa.

On July 20 the papers of Dr. Throckmorton of Des Moines and Dr. Chesire of Marshalltown were not given, Dr. Throckmorton being detained by sickness in the family. The program was given as follows:

Clinic: Babies and children under twelve years of age—Dr. A. H. Byfield, Iowa City, Iowa.

The Systematic Treatment of Syphilis—Dr. R. A. Weston, Des Moines, Iowa.

President's Address—Dr. A. B. Phillips, Mason City, Iowa.

On July 21 all papers were given as on the program:

Medical Clinic—Dr. F. J. Rohner, Iowa City, Iowa.

Hernia: Indications for and Against Operation—Dr. Edward Andrews, Chicago, Illinois.

Symposium on Appendicitis: The Diagnosis of Appendicitis—Dr. M. J. Kenefick, Algona, Iowa; The Treatment of Acute Appendicitis—Dr. W. J. Eggloff, Mason City, Iowa; The Treatment of Chronic Appendicitis and of Complications Following Operations for Appendicitis—Dr. Geo. Kessel, Cresco, Iowa.

The secretary takes the liberty of suggesting that all papers were of unusual merit, that they were all very freely discussed and, that the experiment of having the medical and baby clinic was unusually interesting and beneficial.

The society is again under obligations to the local profession for their splendid entertainments. The banquet was well attended and the informal manner in which it was conducted was unusually pleasing to the visitors. It is needless to say that the entertainment at the White Pier was never surpassed at any previous meeting. A reception at the home of Mayor and Mrs. Knutson was well attended and the ladies were enthusiastic in their reports of the good time had.

Dr. R. W. Stober of Charles City was elected to membership in the society. The following doctors were proposed for membership, the same having been referred to the board of censors to report at the next meeting: Dr. L. R. Woodward, Mason City, Iowa; Dr. A. H. Chilson, Mason City, Iowa; Dr. T. A. Maher, Bancroft, Iowa; Dr. Geo. M. Crabb, Mason City, Iowa; Dr. N. O. Dalager, Clear Lake, Iowa; Dr. Leslie Fenlon, Clinton, Iowa; Dr. C. B. Tice, Mason City, Iowa; Dr. B. Raymond Weston, Mason City, Iowa; Dr. E. B. Johnston, Clear Lake, Iowa; Dr. R. N. Reuber, Dr. C. C. Wiggins, Osage, Iowa; Dr. E. L. Wurtzer, Clear Lake, Iowa; Dr. A. E. Conrad, Decorah, Iowa; Dr. F. A. Barber, Clear Lake, Iowa; Dr. Jane Wright, Clear Lake, Iowa; Dr. O. Franchere, Mason City, Iowa; Dr. H. W. Barbour, Mason City, Iowa; Dr. E. Henely, Nora Springs, Iowa.

The board of censors is composed of Dr. Kenefick, Dr. O. M. Landon and Dr. A. B. Phillips, who becomes a member on retiring from presidency.

A telephone message was received from Dr. L. D. Jay of Plainfield announcing the death of Dr. T. D. Ford of Plainfield on July 19. The following committee was appointed to write resolutions, Dr. M. J. Kenefick, Dr. F. A. Osincup and Dr. Paul Gardner. The resolutions, as follows, were adopted:

Whereas: Death has recently deprived this society of one of its old and honored members in the person of Dr. T. D. Ford of Plainfield,

Be It Resolved: That this society feels a deep loss in the death of this grand old man who has always stood for the highest ideals and the best traditions of our profession. He was verily one of the Dr. McClures of northern Iowa, a type of the country doctor now rapidly passing. In fact, we can sum his life up in no better way than by using the words of the Great Teacher when He said "Greater love hath no man than this, that a man lay down his life for his friends."

Bt It Further Resolved: That a copy of these resolutions be forwarded to his bereaved wife and family and a copy of the same be incorporated into the minutes of this meeting.

The next place of meeting, which occurs in November, in Ft. Dodge. The election of officers resulted as follows: President, Dr. F. W. Peters, Burt, Iowa; vice-president, Dr. E. L. Rohlf, Waterloo, Iowa; secretary, Dr. L. A. West, Waverly, Iowa; treasurer, Dr. J. G. Evans, New Hartford, Iowa. The committee on by-laws, of which Dr. W. B. Small is chairman, was continued as usual.

A vote of thanks was extended to the members who contributed to the program and to the local profession for their courtesy, hospitality and lavish entertainment. A bouquet of flowers was presented to the nurse who assisted in presenting the clinical cases.

W. A. Rohlf, Sec'y.

Ringgold County Medical Society

The Ringgold County Medical Society held a meeting in the Odd Fellows hall, Mt. Ayr, recently. Dr. C. B. Luginbuhl of Des Moines read a paper of general interest to the general practitioner of medicine. Dr. L. H. Fuson read a paper on "The Classification, Pathology and Treatment of Toxic Goitre." Dr. Caryl Potter of Saint Joseph read a paper on "Surgical vs. Medical Treatment of Goitre."

Those present were Dr. C. B. Luginbuhl, Des Moines; Drs. Caryl Potter and L. H. Fuson, St. Joseph; Dr. H. M. Hills, Lamoni; Dr. S. W. DeLong, Tingley; Dr. H. E. McCall, Clearfield; Dr. A. E. King, Blockton; Dr. A. G. Byers, Kellerton; Dr. J. W. Hill, Ellston; Dr. E. J. Watson, Diagonal; Dr. G. I. Armitage, Murray; Dr. O. L. Fullerton, Redding, and the following Mount Ayr doctors: Samuel Bailey, C. T. Lesan, L. H. Ahrens, and F. C. Smith.

Shelby County Medical Society

The Shelby County Medical Society held a meeting on August 19, in connection with the tuberculosis and nose and throat clinic held in Harlan under the auspices of the State Tuberculosis Association. Sixty-four patients were examined and a number of active cases found. The members of the medical society were present at the clinic and derived much benefit from it. In the evening dinner was served to the visiting men and the doctors and their wives at the Harlan Field Club, following which there was a general discussion of various subjects by the members and Dr. Peck, who was the examiner, gave a general talk on the subject of tuberculosis. The next meeting is to be in October.

A. L. Nielson, M.D., Sec'y.

HOSPITAL NOTES

The 28th of September marked the seventeenth anniversary of the dedication of St. Joseph's Mercy Hospital, Waverly. Loyal cooperation among the people of Waverly, the physicians and surgeons and the sisters in charge of the hospital have placed in the first rank this institution, begun by the noble generosity of Abraham Slimmer. In 1919 the authorities of the Hospital Association of the United States and Canada inspected the local hospital and placed it in class "A," (the highest class) for equipment and efficiency.

A nursery completely furnished with all the innovations for the care of babies has been added to the equipment of Mercy Hospital. The nursery, which will fill a need long felt, was made possible partly through the generosity of the Catholic Women's League, which voluntarily taxed each member a dollar for this purpose.

The nursery is located on the first floor and is prettily though simply decorated in pale blue. There are seven cots in the nursery, and all the latest equipment in the way of scales, chests, electrical appliances to insure the babies the best start in life. Members of the Catholic Women's League called at the hospital to inspect the room and all expressed themselves as delighted with it.

It is announced that neither Sister Petronilla nor Sister Genevieve who went to attend the annual retreat in Dubuque will return to the hospital in this city where they were stationed for so many years. Both these Sisters have been transferred to the hospital at Clinton. Sister Petronilla has been in charge of the hospital here for seventeen years and under her management the institution reached a very high standard of efficiency, ranking among the best hospitals in the country. During all these years Sister Genevieve has been an able assistant to Sister Petronilla and both will be sadly missed. They have endeared themselves to patients and visitors at the hospital, and they have made hosts of friends among all classes of people. Mother Pius from Dubuque

has been here for the past several months, while the two Sisters above named were on a trip to Canada, but it is not yet known whether or not she will succeed Sister Petronilla as the head of Mercy Hospital.

Drs. Best and Bernard have rented the upper portion of the M. L. Matson residence in the northwestern part of Clarion to be used as a hospital and Mrs. Matson will have charge as matron. There will be room to accommodate five patients at one time.

John B. Gilbert of Coon Rapids in his will provided that \$10,000 be given to the King's Daughters Hospital at Perry.

The contract for the new hospital at Le Mars to be erected by the Sisters of St. Francis was awarded August 17, the hospital to cost \$202,633.

PERSONAL MENTION

After practicing medicine in Odebolt for fourteen years and conducting a private hospital for ten years, Dr. E. H. Crane has sold his business and goodwill to Dr. Wayne L. Stillman of Anthon, who will take possession September 1.

Dr. W. B. LaForce and Mrs. LaForce, Ottumwans who have been teaching in a suburban college at Pekin, China, for the past three years, arrived home today on a year's leave of absence. They landed in this country July 27 and have been visiting relatives in Kansas City since that time. Both Dr. and Mrs. LaForce have been active in local, county and state Sunday school and church work for several years.

Dr. Edwin Bannick, having finished his course as a post-graduate in Chicago University, has begun the practice of medicine and surgery.

Dr. and Mrs. Gershom H. Hill and daughter, Julia H. Hill, who is practicing medicine in Grinnell, Iowa, made a flying trip to Rochester, Minneapolis and Duluth, Minnesota, returning on the steamship North America over Lakes Superior and Michigan to Chicago. They visited the Mayo Clinic, old acquaintances in Minneapolis, spending four days in sight-seeing in Duluth, and one in Chicago.

Dr. Ward Woodbridge for thirty years has been a practicing physician in Central City is retiring and with his family is going to California to reside. Dr. Woodbridge has not only made his place in the community as a physician but has been one of the leaders in the affairs of the town. He is now serving his second term as mayor. Central City regrets losing this most estimable family. His practice has been taken over by Dr. John W. Eckstien, a graduate of Northwestern Medical College of Chicago, who served with the medical forces overseas during the war and has recently been located at Jesup.

Dr. and Mrs. Carl E. Seashore, who will pass the coming year in Washington, D. C. Dr. Seashore

will devote the lengthy period of his absence to work for the National Research Council.

Dr. Herbert B. Saylor was elected commander of Des Moines Post No. 78, veterans of foreign wars.

Dr. P. A. Helgeson of Lake Mills has been appointed a member of St. Luke's Hospital staff at Mason City.

Dr. Geo. C. Murphy of Cascade will locate in Winthrop, Iowa.

Dr. John P. Savage of Sioux City has been appointed chief of the medical service of the training center of the Bureau of Vocational Education at Silver Springs, Md.

Dr. D. J. Townsend of Lohrville celebrated the fortieth anniversary of his practice in that city August 8. Dr. Townsend represents a fine type of the successful country practitioner. We only wish there were more of his kind; the medical problems would be solved.

Dr. Amos Babcock, the dean of the medical profession of northern Iowa celebrated his fifty-three years of practice in New Hampton. Dr. Babcock was a little in advance of the railroad. The C. M. & St. P. Railway had reached Calmar but the Doctor had an inspiration that an important town was to be built at a point farther on, and waited, looked and listened, until the signal showed that the looked-for town was to be located at New Hampton. For more than fifty years, Dr. Babcock has served the public to their great advantage, with credit to himself, and honor to the profession.

Dr. B. A. Melgaard, after six months' study at the Boston Children's Hospital, is located at 408 Davidson building, Sioux City, and his practice will be limited to the diseases of children.

Dr. H. S. Hadsel of Oelwein has removed to Elgin.

Dr. L. F. Newbern of McCausland has located at Grand Mound.

Dr. John A. Rawlins of Charles City has removed to Davenport.

There is an opening for a good physician in a town of about 1000 population, surrounded by a good agricultural district, in the southern part of the state. Address this Journal.

MARRIAGES

Dr. Clarence Olson of Dows and Miss Faith Weldon of Iowa Falls were married Wednesday evening, August 3, 1921.

Dr. Alfred A. Hoffmann of Waterloo and Miss Marie Bartlett of Waterloo were married August 9, 1921.

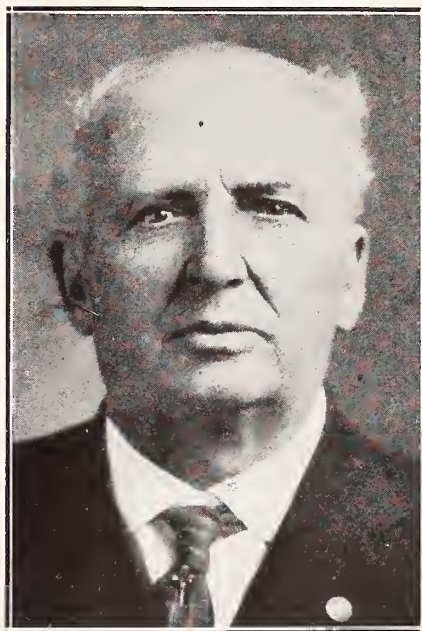
Dr. R. E. Gray of Eldoria and Miss Malie Buford of Gorin, Missouri, were married August 9, 1921.

Dr. Robert W. Gregg of Tipton and Miss Mae G. Nelson of Iowa City were married July 31.

OBITUARY

Dr. T. D. Ford died at his home in Plainfield July 19, after an illness of several months.

Dr. Ford was born near Hainesville, Lake County, Illinois, February 6, 1848. Graduated from Rush Medical College in the class of 1871; was married March 9, 1871, to Miss Hellen Shumway of Lake County, Illinois. Located in Plainfield, Bremer County, Iowa, in 1883, where he resided at the time of his death.



DR. T. D. FORD

Dr. T. D. Ford was a close friend of Dr. W. A. Rohlf who adds some notes which relieve the bare statement that Dr. Ford is dead.

When only twelve years of age, the first call of volunteers came for the Civil War, but the spirit of patriotism was with him, and in 1864, he enlisted in Co. K, 134th Illinois Volunteers, and served to the end of the war.

The study of medicine was quite a different matter in Dr. Ford's day than it is now, and he entered as an apprentice in Dr. Taylor's office in Milburn, Lake County, Illinois. After graduation from Rush Medical College, he commenced practice in Minniskia, Minnesota, and 1883 as above stated, he moved to Bremer County, Iowa.

Dr. Ford was one of the type of medical men that entered the field of practice in days that seem early to us now. The influence of the successful country physician in all matter relating to public welfare, were more intimate and different from what they are today, and Dr. Ford became helpful as a stabilizing influence in public and professional matters.

Dr. C. M. Paschal of Bedford died at his home Friday morning, July 15, 1921.

Dr. Paschal was born in Louisa County, Iowa, September 13, 1854. Spent his boyhood in Monroe

county. Was educated at Wesleyan University at Mt. Pleasant; matriculated in the College of Physicians and Surgeons, Keokuk; graduated with the class of 1875. Began the practice of medicine at Hawley, Page county. In 1890 he located in New Market and in 1893 at Bedford. In 1876 Dr. Paschal married Miss Mabel Bean, who with two sons, Beryl E. Paschal and Karl B. Paschal, survive him.

In 1888 Dr. Paschal represented Taylor county in the Iowa legislature and served two terms.

He was a member of Taylor County Medical Society, the Iowa State Medical Society and the American Medical Association. Dr. Paschal was a highly esteemed and successful practitioner.

Dr. W. F. Ware, formerly of Moulton, died at the home of his son Clell Ware of Detroit, July 12, 1921.

Dr. Ware was born in Davis County, Iowa, near Danville, November 13, 1869. Was educated at the southern Iowa Normal at Bloomfield; graduated from the Keokuk College of Physicians and Surgeons. Practiced medicine for about twenty years at Moulton and at Mt. Union, Henry county for two years, when he retired on account of failing health.

Dr. J. W. Holiday, one of Burlington's oldest physicians and the youngest captain in Sherman's army during the Civil War, passed away at 2:00 A. M. August 17 in the Burlington hospital after an illness caused from a stroke of paralysis.

He was born in Green County, Ohio, May 31, 1846, and was seventy-five years old. He was the son of John P. and Frances Holiday. His father was a contractor but turned his attention to agricultural pursuits when he came to Iowa and purchased a farm in Jefferson county in 1855.

Joshua Holiday received his early education in the public schools and then attended Parson's College at Fairfield. He was seventeen years old when he enlisted as a member of the Eighth Iowa Cavalry at the beginning of the Civil War. He entered the army as a private and worked his way up through the ranks until he was commissioned Captain of Company B. He led his men to many victories on Sherman's march to the sea, and aside from being the youngest captain in Sherman's army, he had an excellent war record.

When the war was over Dr. Holiday resumed his education by returning to school for a year and then desiring to enter the medical profession he began to study in Dr. Mohr's office in Fairfield and was admitted to practice in 1869. He opened an office in Morning Sun and came to Burlington in 1877.

More than forty years of connection with the medical profession in Burlington indicates without further comment that his career was most successful. His skill and ability won for him a place in the foremost rank of medical practitioners in Burlington.

Dr. Andros W. Hoyt died at the home of his brother-in-law, G. A. Gould, 1109 Arlington avenue,

Davenport, Sunday, August 14, after a long illness. The deceased came to Davenport from Long Beach, California, a short time ago.

- Dr. Hoyt was born in Clinton County, Iowa, April 29, 1855, and attended school at Cornell College, Mt. Vernon. Later he was graduated from the medical college at the State University of Iowa. After his graduation he located at Friends, Nebraska, where he practiced medicine and operated a drug store. Later he moved to Lincoln, Nebraska, and two years ago he again moved, this time to Long Beach, California. He was married to Miss Etta B. Smith, April 6, 1879.

Dr. Richard M. Berry of West Union, graduate of McGill University, Montreal, 1888. A member of the Iowa State Medical Society died April 27, 1921, aged fifty-nine years.

Dr. Eldridge S. Edwards died at his home July 29, 1921, at the age of eighty-two years; he was born near Bloomfield, Sullivan County, Tennessee, April 16, 1839.

Dr. M. J. Waggoner of De Witt died at his home August 11, 1921. Dr. Waggoner was born in Canada, December 7, 1839 and had practiced in De Witt many years.

Dr. P. H. Manion, formerly a practitioner in Charlotte, died at his home in Egota, Minnesota. After twenty-five years' practice in Charlotte, removed first to Cedar Rapids then to Egota.

Dr. Samuel Burton McGarry died at Park Hospital August 20, 1921, at the age of forty-eight years. Dr. McGarry was a graduate of Drake University School of Medicine.

A NEW ABDOMINAL SUPPORTER

Huston Brothers Co. announce a recent importation from France, the Comfort U abdominal supporter. A simple, easily applied supporter which is held in place without discomfort to the patient, yet supports the abdominal viscera until you are able to remove the lesion and develop muscular strength. Also helpful during pregnancy and in cases of hernia. Made of light, strong material and washing does not make it lose its shape or strength.

NEW AND NON-OFFICIAL REMEDIES

During August the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

Beebe Laboratories, Inc.:

Beebe Protein Milk.

Beebe Modified Buttermilk.

The Journal of the Iowa State Medical Society

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No. 11

ORATION IN MEDICINE*

ORGANIZATION OR ASSOCIATION OF PHYSICIANS AS AGAINST INDIVIDUALISM OR SOCIALIZATION

CHARLES B. TAYLOR, M.D., F.A.C.S., Ottumwa

I am frank to state that it is with extreme trepidation that I undertake to deliver the Oration on Medicine before a scientific body such as this.

My idea of an oration has always been that which I gained while taking my classical course, which was: a speech delivered, preferably in Latin, perhaps in Greek, in the oritund style and must be extremely classical in the selection of words to express the meaning. But I have learned that scientific men do not take kindly to the oritund and the classical and especially will not tolerate an address delivered in Latin or Greek, and, for the latter, I am truly thankful, as my Latin knowledge has been reduced to the first line of Virgil and my Greek to Xenophon's, meaning—*from this place he traveled*—really tells the story of medical progress.

Adam had scarce left his lovely abode in the garden until he began to fight his neighbor, and he either injured or was injured in the combat, for it was a very personal encounter, and thereby arose the need of a physician. Even then "the quality of mercy was not lacking," a physician appeared, and they called his name Escalapius; and it was he who bound up the wounds of both friend and foe—a custom that has obtained to this day with all true followers. Escalapius was worshiped for centuries. Hypocrates, less mythical than Escalapius, was honored as a divinity; and Celsus and Galen were honored almost as much. And the reason? It was because they were men who coupled large and consistent observation with a large philanthropy, the two essentials for a good physician then and none the less true now.

While evidently much must have been accomplished by these great pioneers in medicine,

yet it seems small to us who have seen in the past one-half century absolute miracles worked, miracles which would make of St. Peter's walking upon the waters of the sea of Gallilee as commonplace in comparison. As late as the eighteenth century, Boerhaave, one of the most accomplished physicians of his time, summed up in his book what he said contained all the secrets of medicine: "keep the head cool, the feet warm and the bowels open." It would not seem much to learn for the young medical student. It was as late as the sixteenth century that Harvey had discovered the circulation of the blood and Haller muscular irritability and its connection with the nerves and Morgagni had founded the science of pathological anatomy. So in the two hundred and fifty thousand years from the time that the cave and cliff dwellers were digging in, the sum total of medical knowledge was not great. We must come to Pasteur and Lister—neighbors of our fathers—before there begins to be much for the medical student but empiricism. A man did not need to know much to know all there was to be taught, that was of real scientific value, even fifty years ago. So if Xenophon were writing today of medical rather than military advance, he would say of the physician—*from this place he traveled*, only a few stadia up to Pasteur and Lister but from this point he has traveled many stadia. And the point is: that the medical student of today and the medical practitioner cannot cover the field—no man is big enough to do it.

Physics is a field of its own and even large enough to be divided and sub-divided. Chemistry and bio-chemistry is so large a subject that, like physics, it must be subdivided into specialties. The knowledge of physiology that is now scientific and reliable is so abundant that the practitioner will do well if he gains from the vast mass, the outstanding and essential principles for application. Pathology that can definitely be demonstrated, is bewildering in its massiveness. Therapy has kept pace with pathology, and anatomy, gross and microscopic, is still sufficient to keep the mind of the most active student busy. And

*Presented at the Sixty-Ninth Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 12, 13, 14, 1920.

yet the practitioner, in order to do justice to his patients, must get the fundamentals, the groundwork, that he may be able to understand and utilize what the physicist and the bio-chemist and the pathologist are preparing for him in their laboratories.

It has been claimed that there is a quarter of a century difference between the discoveries of our scientific laboratories and the practice as it is pursued by the average physician. This is an exaggeration but there is vast room for complaint. The fault, however, does not all lie with the physician, some of it is in the system under which he has been operating and over which he has had no control. He has been working alone, in many instances covering the whole field of practice—in outlying territories—necessarily doing so.

But it is possible for him to know that the bio-chemist has learned for his use, that every cell in the body is a microbe, producing its own secretion, benevolent or malevolent, and that these are being reduced to experimental measurement? Can he measure the water out-put of the body during night sweats in tuberculosis? or make a calometric study in malaria? or treat the anemias from a physiological basis? and diabetes from a bio-chemical basis? Because the bio-chemist has discovered that no one food works independently; that deficient carbo-hydrates spells deficient oxygenation of fats and a disturbed protein metabolism; that the lack of hydrogen balance in the blood will account for a multitude of obscure symptoms in diabetes; that the non-protein nitrogen in the blood should normally be about fifty and that if, instead, it should be 250—uremia would probably follow an operative procedure.

Bio-chemistry again teaches: that the size of the cell or the change in shape by pressure or position, alters the function of the cell; that but a slight change whether by physical irritation or chemical action of some enzyme gone wrong, may make a normal cell become a malignant one.

It again teaches: that but a small change is sometimes sufficient to produce the death of the whole—as is noted in the anaphylaxis produced by the introduction of a small amount of foreign proteid.

Can a physician working out his own salvation in his own way, know and apply in his practice what is being worked out by the expert sanitarian? It was General Gorgas with his magnificent organization of sanitarians who built the canal. The French had engineers. But General Gorgas lost but six hundred men per year, while the French would have lost, working the same

number of men, over 7500—making it utterly untenable to continue the work. Thus it is that the great experimental laboratories, with their vast funds and trained physicists and physiologists and chemists and pathologists are making such marvelous strides in the research fields, that the general practitioner is being left so far behind that he cannot even qualify in the final heats of the race. No matter how hard he strives, the pace is simply too fast.

Again, in the case of diabetes mellitus, while the general physician may understand, just as well as the laboratory man, that the causation or group of factors responsible for sugar waste, is not understood, yet he should know the importance of early recognition of the trouble. He should know the bearing of the fats to acidosis and carbohydrate utilization; and that under nutrition—a general lightening of the whole load of food—is better than the restricted diet with its acidosis and coma; that it is restriction in amount rather than restriction in kind that accomplishes most in treatment. And yet how difficult it is for the busy man who covers the whole field, to know all that is essential for this large class of unfortunates and to be able to apply intelligently the right means for relief. Lack of knowledge spells disaster in these cases where knowledge means success. Nature has gone too badly astray to come to the physician's relief in diabetes unless he has a definite working knowledge of the bio-chemistry involved. Nature has been very kind to us in most things and has saved us millions of interments of our mistakes; but in diabetes she exacts knowledge of a definite and positive kind. Is it not at least presumptuous when a physician qualifies as a specialist in surgery, obstetrics, head surgery and diseases of the kidneys, heart and lungs? and yet it is not at all uncommon. In foreign missions and in some rural fields it is justifiable, but where there are men capable of scientific endeavor in the special fields, and these men easy of access, then such general specialization is not justifiable.

What is the solution? Many, even men of science in medicine, say: that the solution lies in the state assuming all the responsibility for the care of the sick.

That there is a tendency for the state to assume, more and more, the functions that were formerly left to the individual, is very noticeable. In some particulars this is good and in some it is bad. The imbecile is not able to care for himself and never can become able. So it is eminently proper that the state should assume the responsibility for his care. The epileptic and the insane should be state

charges, in a general way, for the same reason. Some of these patients can be treated successfully, but the restraint that can be had in institutions is essential even to treatment. Pulmonary tuberculosis by virtue of the length of time essential to successful treatment and the discipline that is necessary to the protection of the community, places an obligation upon the state and puts the tubercular individual in the preferred class.

Sanitation in a large sense and preventive medicine in its general aspects must be instituted by the state. The responsibility for the wholesomeness of the water supply of the city, and for the food supply of the state and nation, and for the rendering innocuous of disease breeding public and private lands must, in a general way, rest with the state. So also quarantine laws, made for the protection of the general public, must be maintained even at the sacrifice of the liberties of the individual. If the state assumes the right of quarantine, and, thereby, destroys the earning power of not only the patient but of all those associated with him as well, then, under certain conditions, it is perfectly proper that the state with its laboratories should aid in the diagnosis and treatment of those so confined.

There are those, then, who argue that if the state must go thus far in matter of prevention and care of diseases—that if a considerable number of citizens must be cared for by taxation—then this same care should be extended to all alike for all diseases. It might be well to quote the tenets of those who thus argue.

1. Health is of national importance and disease is a national danger.

2. Health and not the purse is the factor determining the needs of individual—disease being no respecter of person, science, in dealing with its prevention and cure, cannot afford to be.

3. Service organized for the poor only cannot be otherwise than unpopular and inefficient.

4. Modern methods of diagnosis and treatment are too elaborate and too expensive, that people, even of moderate means, cannot afford them.

5. An enormous amount of disease remains undetected and therefore, untreated.

6. The service should seek out the disease and watch for contacts in infectious diseases; which cannot be done under private practice where the physician must wait for the call.

And here are the advantages that are presumed to accrue to the physicians themselves where the state has assumed the responsibility for the care of all sick.

1. To secure the fullest possible cooperation and mutual help between practitioners—who would be whole time salaried men—this being possible where there is remuneration by fees.

2. To secure a good distribution of physicians according to the needs of the locality.

3. To secure regulation of hours of work—all working together—each could have hours off each day.

4. So that practitioners could have three months off every three years for post-graduate work.

5. So that men of age and experience should not waste time in doing good work that could be as well done by assistants and nurses.

6. So that there could be no divided interests between the physician's private and public duties.

7. So that practitioners could give unfettered support to matters of public health, which is not possible now with private offenders as patients.

8. To set practitioners free from competitive struggles that they might devote their life to the advancement of knowledge.

9. Practitioners would be relieved of haggling over collections, bookkeeping and bad debts—salaries would be paid and pensions granted on retirement.

I consider this the most Utopian dream conceived for our welfare. We could work a little, think only of lofty things, dwell upon the goodness of God and be promised a decent burial. What more would a reasonable man, and especially a scientific man, want? Surely the greatest fault in the system would be that the physicians would be so ideally situated that he would insist upon overstaying his time—his allotted three score years and ten.

The physician's human nature, with all of its working at cross purposes under the present system of practice, under the new socialistic system, would be subdued and softened and mellowed and beautified to such a degree, that were it not wicked, the people would rejoice in the privilege of being sick that they might be treated by such ideal gentlemen.

The army physician is on full time pay and has no need to worry about the morrow. Yet I am not at all convinced that the regular soldier is better treated nor that the army physician is better equipped for rendering scientific services.

Politicians sometimes conceive governments along ideal lines, similar, perhaps, to the ideal program above quoted. The people, too, sometimes think that if they could only hang the present system of monarchy and guillotine the present system of democracy that an ideal state of social

organization would follow as night the day. But practical men of affairs with the largest understanding have always known that ideal situations can only be found where we have never been and which are only prophesied.

In Germany, where the system of state care has been in force the longest, physicians have, in large numbers, degenerated into strikers—nearly 1300 strikes having been inaugurated as a result of under pay, and all this before the war times. By being underpaid they have not progressed, so that added to a low morale there is a low state of scientific achievement—as is confessed by those most concerned. The people are getting poor service and the physicians are getting poor pay.

In England in 1914 there were those carrying insurance under the national insurance act (compulsory) 13,643,000. There were 16,000 physicians in the "Panel." And by the panel is meant: those signifying their willingness to treat patients at the stipulated rate of 6s 6d per year for each patient treated—the patient having the right to select the physician that he wanted from the panel in his locality.

Fifty per cent of the panel physicians had not to exceed 500 patients. Thirty per cent had not to exceed 1000 patients in the year. Sixteen per cent had not to exceed two thousand and four per cent of the panel physicians had over two thousand patients during the year of 1914. Six s 6d, as I figure it, is \$1.56, so it is an easy matter to figure what a utopia the panel physicians of England have found.

We have learned what under pay has done for our teachers, the better type are leaving their profession in numbers that make the situation serious. In this year's class at Bryn Mawr not one girl signifies her intention of taking teaching as a profession. But the argument is that it is not essential that medical men under state supervision be underpaid—that they should be paid what their services are worth. The answer is: that the state never has paid salaries that would justify the best men to remain on its pay roll—it could hardly be expected to make of medicine an exception.

Where state health insurance has been in force the prices for physicians' services have been reduced to the point where efficiency has been sacrificed.

If it were the physicians only who would suffer from the socialization of all practice, then we would need to sacrifice our best interests for those of the masses. But it takes seven years beyond the high school and thousands of dollars and hard study to become a physician. And it takes still other thousands to remain a good phy-

sician. And not least of all, it takes the promise of a reward, for real merit and initiative to appear. There are a few philanthropic souls who are willing to work for the love of the work alone. But the vast majority of men in all walks of life are only spurred to their best efforts by promise of a reward. Perhaps it is selfish, but the important thing is, that it is true and must be recognized.

It is a fact that one-third the population of cities like Boston and New York are rendered services free by the physicians of those cities under the present plan of operation. In 1914 over 300,000 people were treated in the free clinics of Boston, Massachusetts General Hospital, a state hospital, before the war reduced its medical force—even went so far as to establish a welfare service department—our state is doing the same—sending into the high ways and compelling them to come in. It is a daily occurrence to see patients driving to these clinics in cars that most physicians could never dream of owning.

It has been estimated that fully 50 per cent of all those now receiving free treatment could pay a nominal sum were they compelled so to do. It is largely the fault of those operating the clinics that so many patients are being treated free. There is but small effort made to determine who can and who cannot pay for services. And clinicians are often such enthusiasts in the matter of building up large clinics that it matters little to them whether the patients are indigent. But this condition does not obtain throughout the states—it does not obtain in our own state. So why make of all the citizens of all the states or of all the citizens of any one state dependents upon state charity because the largest cities may be crowded with an element that is not sensitive in the matter of gratuities. If America excels in anything it is in the independence of her citizens and in the initiative that an independent citizen shows.

Why were our soldiers, only partly trained as they were, better than the German soldiers trained to the last word? Initiative—that simply cannot be developed under state paternalism, was the difference in our favor. May the day never come when free thought and free action and the right to exercise the enterprise native with us, should be abridged.

This is fundamental. And whether we are fed by the state, clothed by the state or treated by the state when we are sick, it will be done at the sacrifice of our independence and our initiative. Plato said: "States are as men, they grow out of human character." We are told that "the kingdom of heaven is within us" and it can equally be

said of the state. So the characteristics that have made us particularly strong must be preserved—and these were not developed under state paternalism, neither will they be maintained under state paternalism. I have argued that the field of medicine has become too large for a man, no matter how great he may be, to work it all.

I have argued that for the state to take over the care of the sick is for it to assume responsibilities that do not by right belong to the state; and that in so doing it not only lessens the efficiency of the medical personnel but by the extension of its paternalism to the masses, in doing for the masses what they should do for themselves, that it reduces them, just to that degree, to a dependent state, thereby lessening their efficiency and their initiative—the two great factors that make of us an outstanding nation—a result not to be sought.

What, then, remains for us as the better course to pursue? Organization or at least association. A railroad system would not get far by one man operating it. Merchants combine and incorporate—thereby increase their efficiency and reduce cost to the public. Attorneys are very much given to combination and with greatly increased efficiency resulting—which also means better services to their clients.

Some of us can prosper to a very fair degree, as individuals. But it is impossible for us to render the services that are due the public, and therefore, the fact that we may be prosperous, is not sufficient justification for our operating as individuals. All the advance requirements that have come, have been initiated by the profession itself. The suggestion that led to the laws which make it necessary for the medical student to do seven years study beyond the high school and then to pass a state board, came from medical men and was urged upon legislatures by medical men who saw, in such a move, only the protection of the state from the inefficient and the exploiter. The state has always fought such advances and is still doing so—otherwise the scientist and the chiropractor would not now be exploiting the people.

From the history of the past it is reasonable to expect that any advances that accrue to the state in health and medical matters will come at the suggestion and at the insistence of the profession.

The College of Surgeons inaugurated the idea of hospital standardization and the College of Physicians and American Medical Association have given their weight of approval. These associations are even furnishing the funds and the machinery by which the work of standardization is being accomplished. The benefit is being de-

rived by the public in improved service for the sick and in the lessening of unnecessary services. So it is my belief that physicians, grouping themselves into organized bodies or associations, by which each can select the work for which he is best trained, is the natural solution to the problem of covering the vast field of medical and surgical knowledge. The rich can be cared for and pay well for their services which will be high class because expert. The middle classes can be cared for and pay what is right and still maintain their independence and self-respect. The poor can pay what is possible and the very poor can be treated gratuitously.

Physicians will not be mere pawns of the state but will maintain their enthusiasm, because they are not hampered by red tape and politics and under nutrition. We have learned that the old theory that an army marches better on an empty stomach is false—it is equally false in its application to physicians.

In good service and in the maintenance of a healthy morale; and in bolstering up of the healthy self-respect of the individual, both in the profession and with the masses, it seems to me, that organization of physicians into groups that will cover the various fields of medical science, will accomplish the most.

THE MENTAL DEFICIENCY PROBLEM*

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The problem of mental deficiency is entirely one of the higher grades of those included under the term of feeble-minded or the so-called moron. Morons are often normal looking with few or no obvious stigmata of degeneration. Although their conversation is marked by a poverty of thought they are frequently able to talk fluently. If it is discovered that they cannot learn they are thought of as dull or slow but not as actually defective and incapable of learning. So strong is their resemblance to the normal person that although they are well understood by those who have studied them yet there are many people even today who refuse to admit that they cannot be trained to function like normal people. Yet they are the persons who make for us our social problems.

A standard definition of the moron is, "one who is capable of earning his living under favorable circumstances, but is incapable from mental defect existing from birth or from an early age (a) of competing on equal terms with his normal

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fellows, or (b), of managing himself and his affairs with ordinary prudence."

Two things are to be noted in regard to this definition. In the first place, it is stated in terms of social and industrial efficiency. Such efficiency, however, depends not merely upon the degree of intelligence, but also upon the emotional, moral, physical and social traits as well. In the second place, the criterion set up by the definition is not very definite because of the vague meaning of the expression "ordinary prudence." Even the expression "competing on equal terms" cannot be taken literally, else it would include also those who are merely dull. It is the second part of the definition that more nearly expresses the popular criterion, for so long as an individual manages his affairs in such a way as to be self-supporting, and in such a way as so to avoid becoming a nuisance or burden to his fellowmen, he escapes the institutions for defectives and may pass as normal.

The most serious defect of the definition, comes from the lax interpretation of the term "ordinary prudence." The popular standard is so low that hundreds of thousands of high grade defectives escape identification as such. It is therefore necessary to supplement the social criterion with a more strictly psychological one.

In the Binet we have such a test. Although subject to many modifications, the underlying principle of a graded series of questions remains the same. Repeated observation has shown that the average child of a certain age is capable of correctly answering certain questions, each age having its own series. In spite of technical objections to the method it still remains the most satisfactory single test. It should, however, be used in conjunction with all other available data as to the family, social and medical history.

Before the advent of the Binet scale the terms idiot, imbecile and feeble-minded were loosely used. Binet has noted that the diagnoses by alienists in Paris looked as if they had been drawn by chance out of a sac. The American Association for the Study of the Feeble-minded has adopted the following scheme. The term idiot is used to designate those of mental age up to and including two years; imbecile, those from three to seven inclusive. For those from eight to twelve years a new term has been invented; they are now called morons. The term, moron therefore in America designates almost exactly what is meant by feeble-minded in England. As commonly used, ability to pass the twelve year age test is evidence of normality. This age was adopted on the suggestion of Goddard, because it

had been shown by observation at Vineland and Lincoln, that children of this age, or higher, were able to float in society and only rarely were found in institutions. This standard has been criticized as being too high, and there is a definite trend to a lower one. Simon in 1914 proposed inability to pass the ten year test as evidence of mental deficiency, and Miner and Wallin employ the same standard. Aside from the tests upon school children most of the studies made to establish the hypothetical intelligence standards, have been made upon institutional and delinquent subjects. A brief study is reported by Wallin upon successful Iowa farmers who had had poor educational advantages. In five farmers examined the mental age varied from ten years and four months to twelve years and two months, although in all there was a normal heredity, and in one instance there were a number of exceptionally brilliant children. A conservative scale would consider those unable to pass the ten year test as definitely mentally deficient. In addition, special conditions of delinquency should raise the question as to mental deficiency in those unable to pass the eleven year test.

THE FREQUENCY OF MENTAL DEFICIENCY

Systematic studies upon mental deficiency were first concerned with the school population. Attention was first called to children who were unable to advance at the normal rate through the school grades, and it was found that a very considerable proportion were unable to progress even with special instruction, although there were no physical handicaps. The percentage of school children mentally deficient even with the most conservative estimates is probably one-half of one per cent. Figures of one or two per cent however are common.

The figures for the general population are usually given as a little lower, a difference accounted for by the higher death rate among the defective.

Iowa with a population of 2,000,000 probably has 10,000 feeble-minded of whom some 2,000 are in state institutions.

Estimates vary with the special interest of those making them. Recently the New York commission on feeble-mindedness estimated the New York feeble-minded population at 35,000. The state commission, influenced undoubtedly by considerations of public expenditure rather than of social unfitness put the number at 12,300.

SOME RESULTS OF MENTAL DEFICIENCY

A great part of the present interest in mental deficiency is due to the demonstration that a con-

siderable proportion of all delinquents are mentally deficient. This has come about through the increasing use of the Binet scale as a standard in judging mental capacity. Some 10,000 delinquents have been examined. With the later standards, putting the lower limit of normality at a mental age of the ten years, figures varying from 10 per cent to 50 per cent have been obtained, being lowest among juvenile court offenders, and highest among women and girl sex offenders. Every feeble-minded person is a potential criminal. Lacking in judgment and self-control, he is unable to compete on equal terms with his normal fellows and only too often becomes delinquent. The best approach to the problem of measuring potential delinquency, is afforded by Gorings table. From this table, Goring estimated that 7.2 per cent of males in the general population have been or would be convicted of crime. On the basis of accepted figures as to the frequency of mental deficiency among the general population and among delinquents, it is most likely that 65 per cent of the mentally deficient will be convicted of crime during their lives.

Considering the tremendous cost of vice and crime, which in all probability amounts to not less than \$500,000,000 per year in the United States alone, it is evident that psychological testing has found here one of its richest applications. Before offenders can be subjected to rational treatment a mental diagnosis is necessary, and while intelligence tests do not constitute a complete psychological diagnosis, they are, nevertheless, its most indispensable part.

The elimination of the generation of deficient will not solve the problem of delinquency, but in no other way is there open such a clear and definite method of reducing the problem.

THE ETIOLOGY OF MENTAL DEFICIENCY

The essential factor in etiology is heredity, this being given as varying from 66-80 per cent. The remainder occur in neuropathic families, are accidental, or unaccounted for. Davenport and Goddard hold that the heredity is Mendelian in type and transmitted as a recessive character. This opinion is strongly supported by the statistics of Goddard where the expectant and actual figures are almost identical. This view is opposed by Pearson, Heron of the Galton laboratory and Thorndyke. The fact that intellectual ability grades off gradually and uninterruptedly from medium ability to that of the lowest idiot, is a strong reason for caution in accepting the Mendelian theory of transmission. The importance of heredity is best illustrated by the records of certain notorious families. Of the Kallikak

family 30 per cent were feeble-minded and of the Hill Folk 48 per cent. It was estimated that the Hill Folk have in the last sixty years cost the State of Massachusetts, in charitable relief, care of feeble-minded, epileptic, and insane, conviction and punishment for crime, prostitution, pauperism, etc., at least \$500,000.

THE DIAGNOSIS OF MENTAL DEFICIENCY

No one would think of returning to the day when the principal objective criteria of feeble-mindedness were signs of cretinism, mongolionism hydrocephalus, microcephalus, etc.

The subjective opinion of teachers though better than that of the parents, or of the physician with no psychological training, is less reliable than the Binet test. Binet has shown that teachers when asked to judge a child employ intuitively, the method he recommends though very awkwardly.

A second method of judging mental deficiency is that of school retardation, allowance being made for inability to attend, or for physical handicaps. These will not account for more than two years of lagging. Three years or more of retardation would therefore be taken as a warning of the need of examination. Inability of a child twelve or more years old to enter the fourth grade, is strong presumptive evidence of mental deficiency. Owing to lack of information about school progress relative to attendance the method cannot be accepted as a substitute for the Binet test.

There remains to us as by far the best of the present method the Binet test. Binet was the first to utilize the idea of age standards or forms in the measurement of intelligence. It will be understood, of course, that Binet did not set out to invent tests of ten year intelligence, six year intelligence, etc. Instead, he began a series of tests, ranging from very easy to very difficult, and by trying these tests on children of different ages, and noting the percentage of successes in the various years, he was able to locate them approximately in the years where they belonged. Current descriptive terms like "bright," "dull," "feeble-minded," etc., have no universally accepted meaning. But everyone knows what is meant by the term, eight-year mentality.

The Binet test has undergone several modifications, the most generally used one being the Stanford Revision of Terman.

We may safely accept the Binet test as a measure in determining the mental age of an individual. The approximate point at which deficiency becomes marked enough to demand control of the individual's activities remains to be established. Like physical requirements in recruit examinations, the standard though stated in an arbitrary

manner should be considered with the other elements of the case.

In placing the lower limit of normality at ten years the writer has been conservative. The problem is large enough even with so low a standard. Experience may show eleven years or even a higher age to be the proper one as Goddard, Terman and others already conclude.

A STATE PROGRAM FOR THE CARE OF THE MENTALLY DEFICIENT

I can do no better than give an abstract of the suggestions by Dr. Walter E. Fernald, Superintendent of the Massachusetts School for the Feeble-minded.

It is safe to say that no state has yet officially taken cognizance of 10 per cent of the mentally defective in that state. No state has even ascertained the number of feeble-minded in the state, their location, or the nature and expression of their defect.

We know that feeble-mindedness is highly hereditary but in most states there is no legal obstacle to the marriage of the moron, the most numerous class of the feeble-minded. The problem is highly complex and cannot be solved by a simple formula.

The first step in a rational program would be the beginning of a complete and continuing census of the uncared-for-feeble-minded of the whole state. This register should be highly confidential and accessible only to properly accredited persons.

State supervision of the feeble-minded should be directed by a state commission or a properly constituted state board of health, or similar body. The local administration of this supervision could be carried out by the use of existing local public organizations, local private organizations and societies or by properly qualified volunteers in each community. These peripheral workers could be made efficient by the use of suitable manuals. Regular visits, advise of parents, family histories by the local visitor would be the source of invaluable data. The extrainstitutional supervision would include cases dismissed from institutions, constituting a permanent parole.

The keynote of a practical program for the management of mental defectiveness is to be found in the fact, which seems to be proved, that those defectives whose defects are recognized while they are young children, and who receive proper care and training during their childhood, are, as a rule, not especially troublesome after they have been safely guided through the period of early adolescence. It would be sufficient to

examine only those children who are three or four years or more retarded in school work, perhaps two-thirds per cent of the primary school population.

The great majority of mental defectives are of the moron group. There are good morons, and bad morons, and it is often possible in early life to recognize the moron with anti-social and criminalistic tendencies who will probably need institutional care. The fact should be recognized that the neglected moron is a defective who makes trouble later in life, and that through the formative period of his life he should receive proper care and training either at home with the special help of the regular teacher, in a special class, or in an institutional school.

It was formerly believed that it was possible and desirable to provide institutional care for practically all the mental defectives of the state. This was before the actual extent of the problem and its cost were computed, and before the difficulty of securing the commitment to an institution of many of these cases was realized.

The courts are adverse to assuming in advance that every moron will certainly misbehave to such an extent that he should be deprived of his liberty. That this is justified, is shown by the patients discharged from Rome and Waverly. Very few of the discharged male morons have committed crime, or married. The female morons behave less well but a surprisingly small number have become mothers, or married.

Defectives who develop markedly immoral or criminalistic tendencies should be cared for in special institutions.

Defective inmates of penal or correctional institutions should not be automatically discharged to the community but should be committed to a special institution for defective delinquents and should be permanently segregated and discharged only under the strictest sort of control. Provision should be made for the mental examination of all persons accused of crime when there is any suspicion as to the normality of the accused.

There is no doubt that every state in the union needs greatly increased institutional facilities for the care of the feeble-minded, not only as a matter of justice and fairness to the feeble-minded themselves and to their families, but as an investment that would repay the cost many times over.

There is no panacea for feeble-mindedness. Recognition, protection and education should be accessible to every feeble-minded person. Most important of all, so far as possible, the hereditary class of defectives must not be allowed to perpetuate decadent stock.

Discussion

Dr. Max E. Witte, Clarinda—I was wondering last night, in listening to the most excellent address of our president, just how many of us would carry his statements to the ultimate deductions to which they logically lead. We, as a people, looking at nature elsewhere, are confronted with the struggle for existence, and if we are found wanting, we will go to the wall. The president pleaded for more, and I would plead for better men for the future, but those of us who have worked in the field, know that there are elements within our midst, which militate against it. The excellent paper read by my friend, Dr. Van Epps, points out some of these dangers. And before going farther, I want to say that he has elucidated in an admirable manner, briefly and concisely, only one phase of the family of disorders and deficiencies, and defects of decadence, burrowing as a dry rot in our body politic. We know that defectiveness, more generally spoken of as feeble-mindedness, is only one phase of a deeply underlying cause, an involuntary cause, a cause which is transmissible in the germ plasm from parent to offspring, and which shows itself in various ways—in nervous disorders, in insanity, epilepsies, feeble-mindedness in all its grades, including morosity, relapsing inebriacy, relapsing criminality, pauperism and incapacity in various degrees. And, furthermore, as brought out in this particular field, in the great majority of instances of those of our brethren who have fallen victims, and have become defective or broken down nervously in other ways, the result is due to an inherited constitutional defect, and predisposition towards breakdown and towards under-development, or defect of development. Just how large this question is, we have no means of knowing at this time. It is very much larger than any of us have conception. Dr. Fernald, quoted by the essayist in his paper, some years ago, made a general survey of the State of Massachusetts, and found in this particular phase of degeneracy, feeble-mindedness, that 90 per cent of all feeble-mindedness in the State of Massachusetts was produced by only 5 per cent of the families. Now, there are other forms of disorders, that I have mentioned as belonging to the general group, which he did not include in this report, but I am satisfied that with respect to these, the same thing holds true—that the vast majority of our defectives, and those who are disordered and deranged, and are burdened with constitutional deficiency, or predisposition towards disorder and breakdown, come from only a comparatively few families. But the danger is, that it be perpetuated. There is an effort being made to get some light on this subject, in order that we may meet this problem intelligently; that we may make a proper diagnosis, that we may lay our fingers upon the particular foci from which this degeneration originates, and that we may take proper means to combat it; but more particularly, that the people of our state, and of the nation as well, may be properly instructed in regard to the grave danger within our

midst. There is, in the hands of the legislative committee of our Society, a project whereby the state legislature will be asked to make appropriation for a systematic exploration of our public, as to this particular defect; and not only that, but also provision is to be made for publication of the results, in order that the public may be informed of this danger which we have been harboring, and some of us have passed by without recognizing. Dr. Van Epps drew attention particularly to the subject of morosity. When we talk about morons, I do not altogether despair, but the difficulties in the way of the future eradication of constitutional defect, are great, and will hinge around the subject of morosity. These individuals are so nearly approaching the normal, that it will be a difficult matter, not only to bring them up for tests, but even after you have tested them, to persuade the average uninformed layman of the necessity for restraining future genetic productiveness on the part of these people. But we will have to make a beginning, we will have to do something to eradicate this cancerous sore in the body politic, so that we may have healthier growth of our people in the future. In the matter of this desired legislative enactment, I would implore you, for the sake of generations yet unborn, of the future of our people, of our republic, that each one of you constitute yourself a committee of one, to have it brought about. We cannot take radical and effective remedial measures, until we have made a proper diagnosis, and located the trouble.

Dr. Charles H. Mayo, Rochester, Minnesota—Dr. Van Epps' subject is very important. When the constitution of the United States was written general public health problems were not recognized. In order to make the constitution acceptable to a people who had left Europe because of a desire for freedom, the personal liberty and privilege of the individual was made as unrestricted as possible. As the states developed, health problems increased, but, from lack of knowledge of both conditions and methods, were relatively few until a recent period. The city charter was usually drawn for the appointment of a health officer by the council at a salary of \$150 a year. The health work was seldom well looked after, as the position was usually a political one, the appointee being too busy or not adapted to the work. The average salary of state health officials is only \$4,000 or \$5,000 a year, inadequate to be sure, but the fault has been with the profession. We have in Minnesota a school for the care and education of backward children at a cost to the state of several hundred dollars a year for each child; it will allow \$100 a year for each child for the education of these children in their home city. Few such children receive any education, as their parents keep them at home. The local school board in Rochester, on investigation, gathered in sixty-six such children, and bought an automobile for the school nurse, who calls for several of these children who could not otherwise attend school. We conduct four such so-called "opportunity rooms"

with practically no expense to the city. We are now developing a baby clinic with a special nurse and a rotating medical service, all under the supervision of the health officer. In the fall, when school opens, the health officer secures, on request, the services of several physicians of the city, and a complete record is made of each child's general condition on entering school; this examination is of appearance, weight, eyes, ears, throat, and physical condition. All previous diseases are recorded on the card, and each year it is added to as the physical health record during school life. The city dentists donate their services, and have established a dental clinic at the high school. All poor children receive free treatment for throat troubles, and free glass fitting. Inspection of dairy cows and barns is very essential to control bovine tuberculosis and to prevent milk-borne disease. Small cities are denied this protection, although it is shown in many sections of our country that from one-eighth to one-fourth of the milch cows slaughtered are tuberculous. We now have all the garbage under the control of the health department and keep three to four hundred hogs feeding on the garbage of the city. Last year we made over \$8,000 clear in feeding hogs on refuse which is an expense to every other city. The gathering of the garbage is but a small expense to the residents of the city; it is collected from the hotels and boarding houses for nothing because it is of no value. Hogs are just as susceptible to trouble as children. Hogs under sixty pounds cannot be fed garbage. We buy them at from eighty to one hundred twenty-five pounds, and remember that it takes five pounds of feed to make such a hog weigh one pound more, the amount that it would take to make a little hog gain three pounds. These animals have to be vaccinated and serum-treated.

Dr. Van Epps—I presume most of you are in the same position I was before the war. I did not know anything about the mentally defective problem. I was ordered to Ft. Riley and there was put in charge of section 30 to which were sent the boys who were going wrong, or who were slow in drill. Using the ordinary medical examination methods I went over these boys and sent most of them back to their organizations with a diagnosis of "normal but stupid." It was not until I took up the Binet method of testing defectives that I got anywhere. Of 100 delinquents and backward recruits 50 per cent were below a mental age of twelve years and 25 per cent below a mental age of ten years. In our recruit examinations one group of 4,000 men contained thirty-four mentally defective or 0.85 per cent. Fifty per cent of the people who do not get along, who are public charges, or who are of any of the delinquent types are probably defective mentally. We would be very conservative, I think, if we said that one-half of one per cent of the general population were mentally defective.

THE SPECIAL FIELD OF NEUROLOGICAL SURGERY AFTER ANOTHER INTERVAL*

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(Continued from October Number)

Trauma—What was said on this score from a surgical point of view in my first paper I do not think I can now improve upon—the division into, 1, the hematomyelias; 2, the total cross-lesions usually from fracture dislocation, and, 3, the partial injuries, these being the only ones suitable for surgical intervention. The difficulty lies in distinguishing the three groups and one must acknowledge that there is no sharp dividing line between them. In this respect, however, we will have learned much, chiefly through a study of the victims of spinal gunshot wounds in the late war, though it will probably be a long time before all the material is thoroughly studied. Placed as some individuals were, colonels Sargent and Holmes, for example, at one of the important British bases, it was possible to secure specimens for later study of lesions of practically every segment of the cord in a series of cases which had been previously subjected to a thorough neurological study. Madame Dejerine's opportunities with the spinal injuries occurring in the French army were almost as favorable and she has already published some extraordinary observations concerning ossification of the muscles in areas below the segmental level of the lesion.

Many remarkable and unknown facts were brought to light regarding the localization of function in the cord, but possibly the most immediately arresting were the studies by Henry Head and his co-workers.²⁹ Their observations have shown that, even when in its cross extent, the lesion has been anatomically complete, the cord distal to the lesion is capable of resuming its reflex function to a degree hitherto unappreciated. This process, in the absence of infection, begins to set in after the third week, at which time the lower spinal reflexes begin to reappear. Hence the old conception of a permanent loss of deep reflexes with flaccid paralysis as in indication of a total transection falls to the ground.

Though these observations are of great importance in advancing one's physiological knowledge, they do not necessarily affect in any apparent

*This address was made to do double duty before the Tri-State District Medical Society at Waterloo, Iowa, October 7, and the Cleveland Academy of Medicine, October 8, 1920.

29. Fearnside, Head & Riddock: *Brain*, 1918, xl, Parts II and III, 149-402.

way our surgical procedures, except to influence surgeons to favor in every way possible the return of the so-called automatic bladder reflex which enables the unfortunate victim of these injuries to hold their urine for a few hours at a time.

This involves a problem relating to the care of these patients for which the war does not seem to have given a satisfactory answer, namely the correct method of dealing with the bladder in the early stage of retention. The main desideratum, if one hopes to attain for his patient a subsequent automatic bladder control, is the avoidance of infection, and whether a constant drainage by catheter from the outset, repeated catheterization, suprapubic drainage, or the avoidance of any direct interference whatsoever and letting the bladder distend till it dribbles—which of these methods is best no one so far as I am aware was ever able to satisfactorily determine, nor in this generation, will we again, let us hope, have so good an opportunity of finding out.

One thing these observations of Head have served to explain are the mystifying reports which have appeared in the literature from time to time regarding the restoration of function in a completely severed spinal cord after a laminectomy and suture. Unquestionably they were erroneous observations to be explained by the reappearance of these lower spinal reflex movements which were erroneously interpreted as an evidence of transmission of impulses from above.

THE PERIPHERAL NERVES

The surgery of the peripheral nerves, other than cranial, belongs largely though not entirely, in the domain of traumatic surgery, and as injuries of the larger nerves are often coupled with deformities and need what is called physiotherapy, together with some supporting apparatus in their after care, a bid for these lesions during the war was made by the orthopedists.

It was calculated that fully 25 per cent of all major injuries of the extremities were accompanied by a more or less serious involvement of important nerve trunks and it makes little difference who cares for them—if the orthopedist he must have a better neurological training and operative technique than most possess; if a neurosurgeon he must familiarize himself more than he is accustomed to with the mechanical correction of paralyses. The subject at all events received a great fillip during the war and much has been learned and much unlearned regarding nerve sutures. Attention may be called to a few points which stand out clearly from the great number of published observations.

It has long been known that divided nerves, given half a chance, tend to reunite. Indeed, under circumstances when a purposeful section or avulsion of a nerve has been made it is well nigh impossible at times to prevent some degree of functional reunion. This the old-time peripheral operations for facial neuralgia made only too clear. What takes place has been more or less a subject of academic dispute between the supporters of the neurone doctrine and those of Bethe's school who believed in the possibility of a peripheral regeneration of axones. Though Bethe undoubtedly found axones in the peripheral segments, Langley's explanation of their presence was doubtless the correct one. In short, the proliferation of the cells of the neurilemma sheath is the only peripheral process and though this prepares the way for the axone, unquestionably the axis cylinder must grow down from the proximal segment.

From the great mass of material of the past few years the curious observation was soon made that certain nerves show a much greater tendency to perfect functional reunion than others. To take a single example, the prognosis after injury and suture of the musculospiral was far better than after a corresponding injury of the median. This appeared moreover to have no relation to the distance between the seat of injury and the periphery, for a high radial suture was more favorable than a low median. The explanation for this which seems best to meet the facts is that the functional recoverability bears relation to the degree of purity, whether sensory or motor, of the nerve in question. Thus the musculospiral nerve has a great preponderance of motor fibres and consequently after suture there is less chance of motor axones finding their way down sensory pathways and the reverse, than if the number of sensory and motor fibres were more nearly equal as is true of the median.

This at least is the interpretation which appears best to fit the facts before us, though it is one which is difficult for me to believe as it seems a poor provision of nature. Though we have little knowledge of what the nerve impulse really is, much less of the distinction between a motor and sensory impulse, there certainly must be some chemical difference between the two nerves which would lead us to assume a predilection of down-growing sensory axones for sensory paths and motor for motor.

Be this as it may, it is assumed that, when an imperfect functional result follows what seems to be a simple and perfect nerve-suture as so often happens after median nerve sutures, the

majority of motor fibres have grown down into sensory sheaths to sensory end organs whose messages they are incapable of transmitting, and the majority of sensory fibres likewise to motor end organs.

This interpretation may be quite wrong, though, as I say, it seems to fit the facts and, if correct, it would appear to favor such detailed operative procedures as Elsberg has described, based on Dejerine's studies of the cross sectional topography of bundles in the peripheral nerves. However, even if it is surgically possible to approximate a divided peripheral nerve, bundle for bundle, in the process of a nerve suture, of which I have doubts, there is something other than end-to-end proximity—and it is only a matter of millimeters—which attracts the wandering axone into some particular peripheral tube. Indeed, one may see a perfect functional result when an actual gap has been left, or contrariwise, an imperfect result with the most painstaking approximation.

One thing has been made clear beyond question, and that is the supreme desirability of bringing the two ends of the severed nerve together without the interposition of a bridge, and ingenious ways and means of accomplishing this not only by stretching and by mobilization of the nerves but by shortening the gap in case of great loss of substance by retaining the limb in a position of acute flexion until union has taken place.

Losses of substance of several inches can be overcome in this way, and it has meant the abandonment of the pre-war ideas regarding tubularization and implantations as a means of overcoming gaps—procedures which by increase in scar formation doubtless served to defeat the very object they were intended to serve. To be sure, there have been some remarkable recoveries, particularly in musculospiral nerves after the implantation of nerve autografts, and Nogeotte, whose experimental studies have been more extensive than any, favors the implantation, if one must be made at all, of a section of nerve from another source, which has been fixed in alcohol, but of this I have no experience.

Unquestionably, interest in all these matters aroused by the war has turned the attention of many of our younger surgeons with renewed interest to some of the neurological problems of surgery. Brief courses were given in New York, Philadelphia and St. Louis, largely under the direction of Drs. Elsberg, Frazier and Sachs—which served further to concentrate attention on the subject and to give certain medical officers whose inclination lay in this direction some gen-

eral ideas of traumatic neuro-surgery.

Excellent as all this was, it is a far cry from traumatic to pathological surgery, from doing a peripheral nerve suture to a trigeminal neurectomy, from the repair of a craniocerebral injury to the removal of a brain tumor. Then, too, the lack of personal responsibility about one's army patients—a responsibility entirely assumed by the government—coupled with the difficulty or impossibility of learning of one's end results did not inculcate in many medical officers the fastidiousness of clinical study or operative technique which is a *sine qua non* of success in civil surgery and above all of civil neuro-surgery.

I have not touched upon the surgery of the cranial nerves as this address is already too long. There are many interesting and important aspects of this topic, though possibly the surgery of the trigeminus, and of trigeminal neuralgias in particular, overshadows all else in this particular domain.

I have made these major neuralgias the subject of a recent study, and the results, given a year ago in the Hatfield Lecture before the College of Physicians of Philadelphia, are in process of publication. It may suffice to say that the modern operation of sensory root avulsion, whoever may deserve the main credit of evolving the procedure, is an operation practically free from risks and with a mortality lower than that of almost any other so-called "major" operation in surgery.

In my own series now comprising 343 cases, there have been only two fatalities, the ninth and thirtieth cases, both of them dating back to the days when efforts were made to remove the ganglion together with the root in their totality. There have been 313 consecutive cases without a fatality. There is no operation in surgery that I know of which can so completely relieve such an incapacitating malady and with such slight risk. There are possibly 5 per cent of the cases which are not cured, cases in which the diagnosis was incorrect and in which the facial pain, supposedly trigeminal, is really of some other origin.

A National Institute of Neurology—Though as a matter of fact it was the first time that such a special line of work as is represented by neuro-surgery was recognized by an Army Medical Corps, the department was not utilized to its full for many reasons, not the least of which perhaps was the old chauvanistic idea that he who is called a general surgeon must do equally well all things surgical. Nevertheless, the desirability and need of specialization in military medicine more than in any previous war came to be accepted as a principle, and in some divisions of the service, where it obviously could prevent wastage of manpower, it played an important role.

Those of us, however, who had the overseas responsibility for the care of such injuries of the

nervous system as would incapacitate soldiers for further service, aware of the fact that these men would be the last of all our wounded to recover, and even then very imperfectly, were disturbed by the lack of coordination of neurological interests which possibly the scramble during our short period in the conflict made inevitable. Since most of the surgeons delegated to the neuro-surgical subdivision had only a meagre neurological training and the neurologists were all occupied in the important field of psychiatry, none of us got as far with our neurological problems as if we had been organized together.

Cognizant of all this, Drs. Salmon, Schwab, McCarthy and myself, after many conferences, were unanimous in the feeling that some more effective organization should be brought about and that centers should be established where psychiatrist, neurologist, neuro-surgeon and neuro-pathologist could be brought together, and where functional as well as organic cases could be seen and studied and treated conjointly for the benefit not only of the soldier but of neurology itself.

This is all past history which I have gone into more fully on another occasion,³⁰ but I touch upon it again for the reason that out of these conferences there developed the idea of a national institute of neurology. The four men whose names I have mentioned agreed to withdraw from their pre-war engagements to take full-time positions in such an institute, provided the necessary funds could be secured for its establishment on a generous national scale. No one could possibly have been better fitted to launch and direct such an institute than Colonel Salmon, whose interests largely lie in the sociological aspects of neurology. It was hoped that under him, as subordinates, a neurologist, a psychiatrist and a neuro-surgeon might each have a hospital ward for their special cases, and that the neuro-surgical laboratory which under the direction of Major Weed in Baltimore had done such admirable work during the war might be taken over intact. It was assumed that during its first few years this institute would be entirely at the disposition of the government and the army for the care of the neurological cases which, as I have said, remain the last precipitate of the war injuries—cases which now, alas, are wide-scattered.

The venture proving a success, as it almost certainly would have done, it was anticipated that with the war work finished it would become a national center, an institute and hospital, for the

study of disorders of the nervous system—a central rallying place where psychologist, psychiatrist, neurologist, neuro-surgeon and experimental pathologist could work in cooperation—a training ground as well for their successors who for the first time in any country would be given an opportunity, after graduation, for a broad general neurological training.

This, gentlemen, is by no means an idle dream. The situation two years ago was most favorable for the inauguration of such a movement, a movement whose ultimate objects were to bring intimately together all of those who from one aspect or another are attacking problems relating to the diseases of the mind and the nervous system. There is nothing which is possibly of more vital concern to the nation than a knowledge of the mental disorders to which its citizens are subject. There are few things relating to the health and well-being of the community more neglected. For a single imperfectly endowed clinic for the study of mental disorders probably twenty institutes for the study of cancer, of infectious diseases and so on have been established, whereas the insane forgotten in our asylums and those with nervous and mental disorders who helplessly frequent our clinics and out-patient departments out-number all other patients by far.

This project may seem far removed from neuro-surgical surgery, but I have an instinctive feeling that some day such an institute on a scale as large as the recently founded Institute of Hygiene will come to be established. When that day arrives, the neuro-surgeon will of necessity be a participant, and from the contacts therein possible will come to have the proper neurological training essential to the success of his particular field. He will need a preliminary general surgical training, but he will nevertheless have to be a product of a School of Neurology in a broad sense such as we do not now possess, nor any other country, for the matter of that.

In the preamble to this address regarding specialization in general, my hearers may have been aware, between the lines, that I was reading my own confession into what was written. It is true, for despite a reasonably broad surgical preparation, I confess to have climbed into neurology by the outlying route described. It is for this reason that I thoroughly understand how essential it is for the neuro-surgeon of the future, if he is really to do justice to this new specialty, that he have a far better grounding in clinical neurology and psychiatry than I have had, for he must make his own diagnoses and must have an intimate knowledge of neuro-pathology if he

30. Concerning the Establishment of a National Institute of Neurology. *Am. J. Insanity*, Oct., 1919, lxxvi, 113-129.

is to know what conditions are amenable to surgical therapeutics.

Many people are eager to enter this field of work. Hardly a month passes without some well established surgeon writing to ask if his assistant may be given some instruction in "brain surgery" and can we take him. We are glad to do all that is possible. "Yes, he attended lectures in neurology as an undergraduate, and then there are colleagues who will make his neurological studies and use the ophthalmoscope for him." He comes and spends a short time as an onlooker and returns to his clinic a neuro-surgeon.

It will be a bad thing for neurological surgery when it becomes fashionable. Gynecology has already suffered from this, and orthopedics is in the way to follow. Tendencies in this direction, to my despair, are apparent. Glad as I am to feel that the importance of the subject as a special line of work is becoming recognized, and confident as I feel that the day will come when professors of neurology in our schools will have had a surgical training just as the present-day gynecologist and orthopedist must have, nevertheless the way to bring about this desired end is not through the surgical operating room alone, but by the slow process of the neurological clinic and the laboratory. Let us hope that some day in a National Institute such as I have described, the all-round training which is essential may be properly acquired by medical graduates desiring to enter this field.

But for its own good, I pray that neurological surgery may never get so far from the home of general medicine and its immediate parent, surgery, that there will be any estrangement or any possibility of its being shut out of doors when the time comes for its return.

THE TREATMENT OF CHRONIC ARTHRITIS WITH SPECIAL REFERENCE TO END RESULTS*

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A considerable number of valuable contributions have appeared in recent years on the treatment of chronic arthritis, some based on the observation of a large number of cases, yet there is no definite plan proposed that is applicable to all instances. This emphasizes the fact, which is becoming generally recognized, that each case of chronic arthritis presents special problems by itself. In this respect it resembles diabetes.

Few diseases are subject to greater confusion

than those of joints, the incomplete knowledge of the same being evidenced by the variety of terms applied to the same disease. Any classification that is suggested should be as simple as possible, and for the present the term chronic arthritis is as comprehensive as any. It is possible that chronic myositis can be closely associated with it, yet a distinction should be made between them. To attempt a differentiation based on clinical signs or pathological changes is unsatisfactory, while an etiologic classification is equally confusing.

The deforming feature is not always present, and varies so in degree that it also can not be used as a criterion in all cases.

All cases of arthritis should be regarded as chronic where the symptoms have extended beyond one year.

The treatment can be considered under three heads, (1) removal of infective foci; (2) local therapy to the affected parts; and (3) general care of the patient.

It is the consensus of opinion that practically all cases of chronic arthritis are due to some infective agent. The connection with a previous infectious process can not always be established, and the infective focus is not demonstrable in all cases, yet these exceptions do not abrogate the rule just set forth.

No disease condition has been more often associated with focal infection than arthritis in its various forms, the true appreciation of this fact being largely due to the brilliant work of Billings¹ and his co-workers. The percentage of demonstrable foci varies considerable in the studies of larger groups of cases.

In Pemberton's² series of 400 cases studied at the U. S. Army General Hospital No. 9, a careful analysis of surgical foci gave the following results: 293 persons of the 400 cases (73.25 per cent) showed demonstrable surgical foci; 208 (71 per cent) of the 293 cases showing foci had the infective focus in the tonsils; 134 (45.73 per cent) of those showing demonstrable foci were positive for a dental focus; 78 (26.62 per cent) showed a combination of both dental and tonsillar foci; 50 (17 per cent) were positive for a genitourinary focus.

As regards the progress of this series of 400 cases: 34 (8.5 per cent) recovered after the removal of foci; 31 (7.75 per cent) were improved after the removal of foci; 28 (7 per cent) were unimproved after removal of foci; 184 (46 per cent) recovered in the presence of a demonstrable focus; 92 (23 per cent) recovered in the apparent absence of a demonstrable focus.

*Presented at the Tri-State Medical Society, Waterloo.

In a thorough analysis of the results of tonsillectomy in 200 consecutive cases of myositis and arthritis, Lillie and Lyons³, state that a marked improvement resulted in all cases after tonsillectomy. In 79 per cent of the 200 cases dental foci were removed at the same time. These observers make the further statement that the size of the tonsil has no bearing on its possibility as a focus, and furthermore that the absence of disease of tonsils does not eliminate this organ as a focus.

It is generally conceded that the most frequent sites of focal infection as related to chronic arthritis are the teeth, the tonsils, the genito-urinary tract, the sinuses, the bronchi, the gall-bladder, the gastrointestinal tract, the pancreas and the vermiform appendix.

Chapman⁴ has reported sixty-six cases in which special treatment was directed towards removal of infective foci, with the result that 50 per cent of the cases according to clinical observation showed definite improvement.

Focal infection has thus become a byword in connection with chronic arthritis, and no plan of treatment is complete that does not include the removal of all demonstrable infective foci.

The question of what constitutes pathology particularly in the tonsils and when it potentially operates as a focus of infection is a matter on which there is room for considerable discussion, and it is probable that no conclusions are entirely free from criticism.

Dental foci, although clearly demonstrable by the radiologist are likewise open to false interpretation. The role of "dead" teeth is by no means clearly determined. We have noted marked improvement after their removal, yet even that was not entirely convincing of their causative significance.

Striking results have been observed in our service of removal of distant foci, as chronic endometritis, ischio-rectal abscess, infected ingrowing toe nail, and chronic pyelitis. Genito-urinary foci require long persistent treatment to insure appreciable results.

Gratifying though the results appear to be following the removal of infective foci, this is only a stage in the plan of treatment. The frequent mistake is made to be content with this, and conclude that further treatment is not necessary and without avail.

General systemic changes while not directly of etiologic significance must be considered as having at least a predisposing relation to chronic arthritis.

The treatment by dietary regulations as first proposed by Pemberton⁵, in his hands at least,

has been very helpful in a certain group of cases. In the series of 400 cases later reported by this same author, special opportunity was given for studies in metabolism.

While the basal metabolism of chronic arthritis is probably within normal limits, the possibility of disturbance in intermediary metabolism has been established especially in this study of a larger series of cases.

Pemberton states that the response of arthritis as compared with normals under similar conditions to the so-called nephritis test meal indicates a very slight lag in elimination of water, nitrogen, and particularly of salt.

In the study of forty cases of arthritis one-half showed an abnormally high value of blood creatin.

The lowered sugar tolerance was frequently observed, and this has often been reported by other writers. For clinical purposes arthritis may be classed with diabetes and gout, in that there is in each case a limit of tolerance for carbohydrates on the one hand and proteids on the other.

It is frequently observed that during the fasting period incident to surgical treatment as in the removal of tonsils or the appendix a marked improvement occurs in the arthritic phenomena, which can not properly be ascribed to the surgical procedure. These observations have led to the institution of special dietary regulations as a means of therapy in selected cases of chronic arthritis.

This plan seems best adapted where a demonstrable focus of infection or definite causative agent is not present.

Draper⁶ has recently presented an interesting study of patients with chronic arthritis along the line of comparison with the anatomic characteristics of acromegals, referring to a previous study of "the relationship of external appearance of the body to disease."

French observers have previously called attention to the relation of the thyroid gland to chronic arthritis. Vincent⁷ states that 68 per cent of acute rheumatic fever cases have thyroid swelling. Paul Claisse⁸ has also reported the general "slowing down" of all functions in certain forms of chronic arthritis. Draper forms the conclusion "that chronic arthritis represents a very profound constitutional disturbance in which forces analogous to those concerned in acromegaly and thyroid insufficiency are concerned. The family and personal history with arthritis patients give of hives, angio-neurotic edema (bee sting effects) and asthma, and in addition, the well known feature of joint involvement seen in serum

disease all seem to indicate that there is a relationship between the whole group of phenomena and chronic arthritis."

In regard to the local treatment of the joints and areas affected by the chronic arthritic process, there is no measure that affords such immediate relief and comfort as general baking, usually carried out daily, with one free day each week. It relieves the pain far better than the use of anodynes, and has a good effect on the swelling and stiffness of the affected joints. As soon as acute symptoms have subsided a systematic course of massage should be instituted by an experienced masseur, and the effectiveness of this feature of the treatment will be influenced by the familiarity and experience of the masseur with the problems involved in chronic arthritis. Even where marked deformity exists through hyperplastic or atrophic changes, a great deal can be done to improve the function of individual muscles and tendons, and thus to a certain extent at least restore functional ability in the joints affected. Special orthopedic appliances are often necessary particularly where the knee joints are involved, to overcome flexion and at times promote fixation of the joint. Walking can not be carried out without great discomfort when the knee joint is partially ankylosed in a flexed position. A stiff knee joint with the limb straight is useful for walking, even though it may be awkward.

As soon as it is possible and the acute symptoms have been relieved the affected joints should be used, and walking should be encouraged as soon as it can be carried out without too much discomfort.

Medicines occupy but a minor place in the treatment of chronic arthritis. Vaccines and the injection of foreign protein as reported by Miller⁹ is still in an experimental stage and have but a limited use in any plan of treatment.

In order to illustrate the various phenomena that may accompany chronic arthritis, and in a sense typifies the condition, the history of one case is presented.

A young woman twenty-one years of age, Miss C., first appeared for examination January 7, 1919, giving an arthritic history of two and one-half years' duration, involving principally the knees and ankles. She was admitted to the Iowa Methodist Hospital, and remained for her first stay until May 4, 1919. The tonsils and one dental focus were removed during this time. A moderate thyroid enlargement was noted at the beginning, and soon after admission the signs of hyperthyroidism became very marked, continuing during the four months stay in the hospital. While this condition gradually subsided with rest

and appropriate sedative measures, it seriously interfered with the carrying out of the usual therapy for the chronic arthritis. A moderate leucocytosis, 11,000, was present. A low grade of fever continued, and a lowered sugar tolerance was noted at different periods.

The patient returned to her home for the summer, and re-entered the hospital on July 31, 1919. The arthritic condition was more distressing as additional joints were involved and she was unable to walk, but the signs of hyperthyroidism had practically disappeared. A pyuria was noted, and the urinary findings indicated a nephritis.

An examination of the nasal accessory sinuses by Doctor Pearson was negative.

On August 13, 1919, an infected tooth was extracted, which led to protracted bleeding, which continued ten days before it was finally arrested. The coagulation test showed no coagulation at the end of an hour and a half. The arthritic condition was distinctly improved following this, and the signs of infection of the urinary passages disappeared.

On September 9, 1919, two dental foci were removed followed by nine days of bleeding from the gums; the coagulation time was fixed at two hours.

October 4, 1919: Blood condition—Hgb 60 per cent, red cells 2,730,000, leucocytes 9,400. Polys 60 per cent, lymphocytes 34 per cent, basophiles 1 per cent, esinophiles 2 per cent, transitional 3 per cent. Coagulation time two hours. At this time pyuria reappeared. Renal function test 20 per cent in two hours.

October 10, 1919: Because of the secondary anemia and prolonged coagulation time, a transfusion was carried out, a sister being the donor. The blood state improved following this transfusion.

October 19, 1919: One infected tooth extracted followed by moderate bleeding.

November 20, 1919: Blood state—Hgb 60 per cent, red cells 4,330,000, leucocytes 13,000. Differential—polymorphonuclears 67 per cent, lymphocytes 29 per cent, transitional 4 per cent.

December 2, 1919: Began to walk. General condition better. Urine clear.

January 6, 1920: Blood state—Hgb 70 per cent, red cells 4,379,000, leucocytes 10,200.

January 15, 1920: Suspicious dental focus was removed. No bleeding. The radiographic findings were not at any time conclusive of an infective focus, and only after the first one, which was a so-called dead tooth, and such marked improvement followed extraction, led to the belief that the other dead teeth might be a source of infection in this particular case. In the endeavor to control bleeding following extraction of teeth, coagulose was used, and each time was followed by a short period of angio-neurotic oedema.

January 28, 1920: End of daily fever. Weight better. Improvement in walking, which improved until leaving the hospital, April 10, 1920, completing a stay of nearly thirteen months.

The problem throughout was the element of infection and each time that a focus was removed or cleared up there was a lowering in the leucocyte count, less fever, less distress in the affected joints and improvement in the general condition. The infection manifested itself as periodic pharyngitis, cystitis, nephritis, and infected teeth. As further complicating the condition was the periodic hyperthyroidism, angio-neurotic oedema, impaired blood coagulation, with associated bleeding tendency, marked secondary anemia, lowered renal function and sugar tolerance. In spite of all, the outcome was very gratifying both as to the general state and the arthritic condition.

The case typifies the varying phases of chronic arthritis and the happy result possible by the faithful cooperation of the patient and coordination of all possible remedial measures.

There can be no question but that the essential factor in all forms of arthritis is an infective process, although it may not always be clearly demonstrable.

While the removal of the infective foci should be of first importance, the general care of the patient should have an equal place in any plan of treatment. Every case is a matter of individual study. Much depends upon the attending physician. His heart must be in it, and this interest must be manifest at all times, if the fullest confidence of the patient is to be secured. The handling of chronic arthritis resembles in many ways the care of a neurasthenic patient.

Chronic arthritis can only be properly treated in a hospital where every facility for examination is available and all possible forms of therapy can be properly carried out.

These cases naturally come first to the attention of the orthopedist, yet the problems involved in diagnosis and treatment, bring them properly within the sphere of internal medicine, although the advice and cooperation of the orthopedic surgeon is a necessary factor in the successful treatment.

Chronic arthritis is one of the most distressing disease conditions and frequently appears quite hopeless, yet every case offers some possibility of improvement and any relief of pain and discomfort, partial restoration of joint function, arrest of the process, and improvement in the general state means so much to this class of patients and is worthy of our very best efforts.

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PELLAGRA*

J. W. MYERS, M.D., Sheldon

Entrance and Complaint—William J., first appeared in the office on the evening of April 15, 1919, complaining of weakness, loss of appetite, inability to sleep, skin rash and vague indefinite, mental symptoms, chiefly concerning his sexual life.

Personal History—Patient was male, age twenty, farmer, moderate user of tobacco, denied lues or gonorrhea.

Family History—Patient comes from a large family whose members have all been healthy, with the exception of the father who has had gastric ulcer for years. The family is in very comfortable, financial circumstances and live in good sanitary surroundings.

Past Medical—Negative.

Present Illness—Patient went to bed feeling perfectly well on the evening of April 8th. During the night he was seized with violent cramp, diarrhea and fever, the pain being so severe that it required the use of a hypodermic of morphine to relieve. In the interval between the 8th and 15th, the patient was not seen, but when he appeared for consultation, said that the diarrhea had only persisted that night and since then he had been obstinately constipated, a condition very unusual for him. His appetite had been gradually becoming poorer, due to a dislike for food and because of the soreness of his mouth. Insomnia formed one of his most bitter complaints and he believed this was due to worry over his condition. Weakness, especially of the lower limbs, compelled him to quit work altogether and to express it in the patient's own words, "I feel as weak and limp as a dish rag." About four or five days after the initial diarrhea an eruption appeared on both hands extending up as high as the wrists. This he said, was very annoying because of the itching and burning, especially the latter. At this time the patient appeared to be laboring under great emotional stress and had forebodings that he was going to lose his mind. Delusions of persecution were present even within this early period. He imagined that he had been poisoned by a powder which had been placed on a billiard

*Read before the Northwestern Iowa Medical Society, October 27, 1920.

cue by a party who had taken offense at a remark which the patient had made and this powder or "cow itch" as the patient described it, had been given to him for the purpose of making him a sexual degenerate. He was also considerably worried that he was afflicted with syphilis, that he was only reaping the results of his own misconduct and that he would never become a well man again. He seemed to be living in an atmosphere of hopelessness and depression and could see no help for himself in the future but misery and utter despair. At times he would become very offensive to other members of the family with his sexual delusions and his indifference to the exposure of his person. His speech was slow, studied and tremulous, and it was difficult for him to comprehend what you desired in the simplest questions. Other nervous manifestations of the disease were an unsteadiness, almost an ataxia of the lower limbs, a jerky inco-ordination of movements between upper and lower limbs, and an unsteady, shuffling gait. A coarse tremor was present which was more pronounced in the upper extremities, especially the hands and tongue. These symptoms along with insomnia were the most pronounced nervous symptoms of the disease and continued until November of the same year.

The cutaneous symptoms were also a prominent feature in the case and formed one of the chief diagnostic aids in solving the disease. It was characterized by a symmetrical erythema involving the backs of the hands and ending with a sharp line of demarcation at the level of the styloid process. It closely resembled a sunburn and could be easily mistaken for it, especially as a few days later the neck was covered with an erythema, limited above by the hair line and below by clothing. This eruption gradually assumed a brownish tint soon followed by a very fine exfoliation of the epidermis.

The gastro-intestinal symptoms were ushered in by cramp, diarrhea, and fever which persisted for a few hours. The diarrhea was replaced by an obstinate constipation, a large dose of saline or castor oil being necessary to secure a daily evacuation. The mucous membrane of the mouth and tongue was reddened and inflamed and presented a few aphthous ulcers on the under surface of the tongue and gums. The patient complained of a dry and burning sensation in the mouth and of painful deglutition. Anorexia and disgust for food was present in the early weeks of the disease but the appetite seemed to improve far more than the other clinical manifestations of the disease.

Cachexia was present to a marked degree and seemed not to bear any definite relations to the blood examination, nothing being noted in the blood count or hemoglobin estimation, which could account for such an extreme degree of cachexia. The blood serum gave a negative Wassermann. Urine examinations on three occasions were negative.

R.—The patient was immediately put on a nourishing, well balanced diet, with abundance of milk and medication in the form of sodium cacodylate, a three grain ampoule given twice a week and continued until November, at which time the patient began to improve in all respects and the drug discontinued. He was advised to report January, 1920, for further arsenic treatment but failed to do so. In April, 1920, we expected this man to have a relapse but it did not occur. However, after studying the work on pellagra by Wood, we have taken a more hopeful view of the case and thought possibly the intensive arsenic treatment and liberal use of milk and proteids in the diet, would result in a permanent cure.

DETACHMENT OF ADHERENT PLACENTÆ AND DELIVERY IN ABORTION

C. E. RUTH, M.D., F.A.C.S., Des Moines

The great frequency of abortion from whatever cause, together with its frequent grave complications gives the subject sufficient importance to justify its careful consideration.

Complete detachment of the placenta is at times difficult, and in many cases it is imperfectly accomplished, and at others much needless trauma is done, besides increasing the danger of infection and sterility by the manipulation intended to detach and remove the secundines.

Were the index finger of sufficient length, it would be the ideal instrument with which to produce detachment of the placenta because its tactile sense makes it an ideal instrument of precision, able to practically see and know the condition.

Unfortunately the longest finger is almost, but not quite long enough for the work, in many cases, as I have abundantly verified on frequent occasions.

Placental forceps on the market are absolutely worthless as detachers of the placenta and any ordinary forcep can remove a placenta which is already detached.

The impossibility of effecting detachment of the placenta by the finger in many cases, the uncertainty and danger of the auger and curet, even

in the most skilled hands has caused a large percentage of the profession to abandon all attempts of removal of secundines in abortion cases with adherent placenta.

These physicians allow the secundines to come away by putrefaction as safer than manipulation of any kind.

Not one physician in one thousand would seriously consider leaving the bedside of a patient for more than a few moments until the placenta was delivered, in a case of labor at term.

The placenta has as certainly lost its function in the case of abortion as in labor at term and its being allowed to remain in abortion is only an admission on the part of the surgeon that he cannot safely remove it.

Failure to remove the placenta following labor at term would by most physicians be considered criminal.

The surgeon should, can and usually does prevent infection in wounds elsewhere and he should be as able to do clean work here and give his patient protection against infection by emptying the uterus at once thus saving her from the dangers

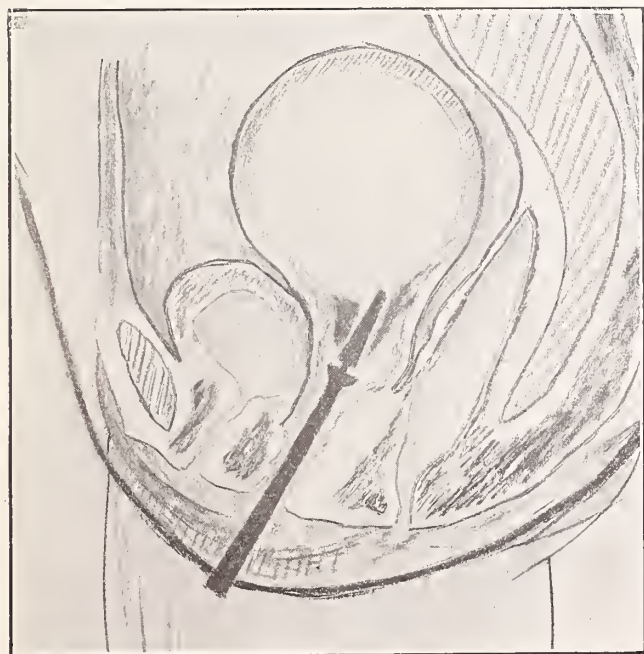


Figure 1. Hard rubber dilator on stem, inserted into cervical canal. The elastic bands, necessary to keep constant the small force needed to accomplish dilation with this method, are attached to the lower end of the stem below and to a binder or adhesive around the abdomen, above.

of death, prolonged illness, permanently impaired health and sterility.

I am convinced that the uterus can always be safely emptied if done promptly, before putrefaction changes have begun accompanied by pyrexia, septicemia and abscess formation.

The method presented to you herewith is not

an untried thing but one I have used for thirty years and have tested to my entire satisfaction before asking consideration by the profession.

The body of the uterus in the early months of normal pregnancy being almost perfectly spherical with the neck from one to one and one-half

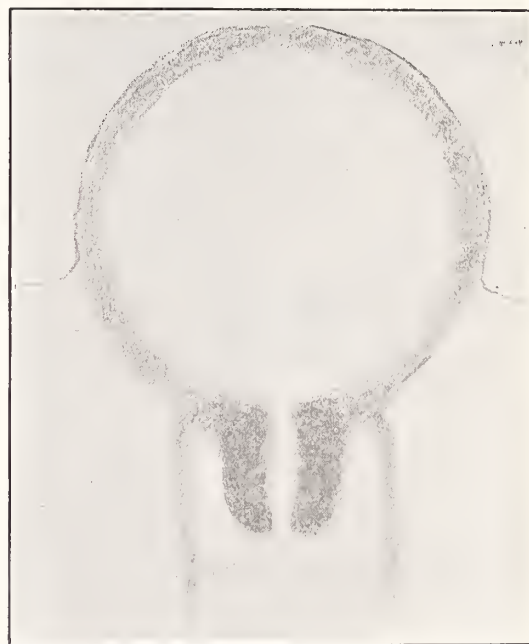


Figure 2. Diagrammatic sketch of uterus in early months of pregnancy, showing globular character.

inches in length (figure 2), it follows that any appliance to be of service in detaching an adherent placenta must be capable of application to every part of the interior of a spheroid.

If such instrument is to be of the forceps type, it must be capable of being made small enough to be introduced through a long cervical canal; it must be capable of expansion entirely within the globular uterine body cavity entirely above the narrow cervical canal; must be so constructed as to be made to reach every portion of the interior of the uterus and clear it of attached placental tissues and membranes; and when that is done it should be capable of being closed and withdrawn, bringing with it the placenta and membranes in such manner that no harm is done to the patient, and with the minimum of pain.

Such an instrument I devised in two sizes, and have used for many years with satisfaction, though I have never until within the last year attempted a public description, of its virtues and use.

The stage of gestation and resulting size of the uterine cavity, will determine the size of the instrument to be used, in detaching the secundines in any individual case.

In some cases while abortion is inevitable the

cervix is not sufficiently dilated for instrumentation of the uterine contents.

In such cases the use of the hard rubber dilator with elastic pressure will accomplish the dilation

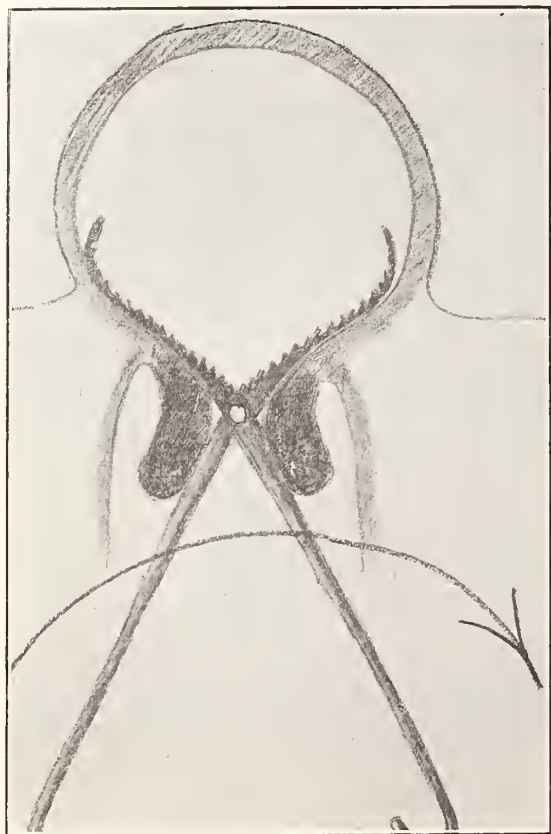


Figure 3. Detacher introduced, spread, and ready to sweep the lower segment.

in a few hours, without trauma, without anesthesia, and without abrasion of the mucosa. Then with or without anesthesia the detacher is introduced under aseptic precautions with the jaws closed, while the fundus uteri is depressed and the handles of the detacher are carried backward, so as to bring the uterine and vaginal canals in as nearly as possible a straight line.

The fundus uterine is steadied by the left hand above the pubes, while the right hand spreads the jaws of the detacher and holds them firmly in contact with the lower internal surface of the uterus.

In this position the detacher is rotated and the lower segment is swept by a complete rotation.

The detacher is then inserted an inch farther and again rotated in the same direction; this farther insertion and rotation always in the same direction is repeated until every part of the interior of the uterus has been cleared, then the jaws of the instrument are closed and instrument, placenta and secundines are gently withdrawn while the rotation is continued until all is delivered.

Proper care in the use of the instrument will usually result in a complete detachment and delivery of the placenta and membranes at the first trial.

There is however no objection to repeating the performance, if there is any question as to complete removal.

Steadying of the fundus with one hand, while the instrument is rotated on the interior produces very active uterine contractions materially aiding separation of the placenta.

The instrument was originally made to present a dull margin against the uterine wall while rotating to the right. When rotated to the left brought a sharp angle in contact with the area from which the placenta and membranes are to be detached.

At the present I should never recommend the use of a sharp-edged or angled instrument in detaching the placenta. Great harm has resulted from the use of the sharp curet in these cases.

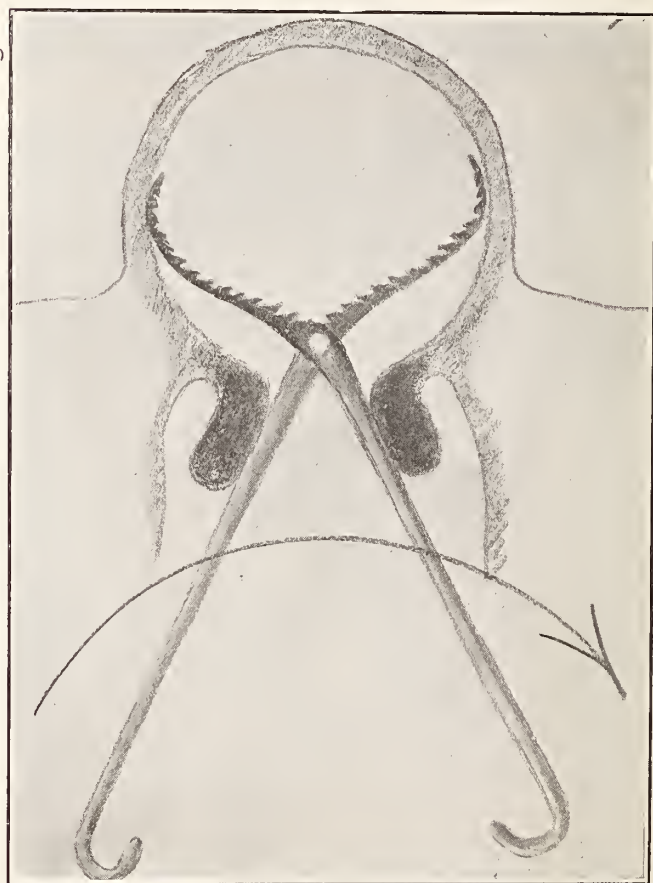


Figure 4. Detacher further introduced and sweeping the mid-portion of the uterine wall.

I have twice perforated the uterus with a curet and I have seen septic uteri through which the finger could be passed with very slight resistance being encountered. A case of perforation of the uterus during curetage was reported to me which occurred within the last four weeks.

I am convinced that thousands of women have been rendered sterile by the curet with no compensating benefits.

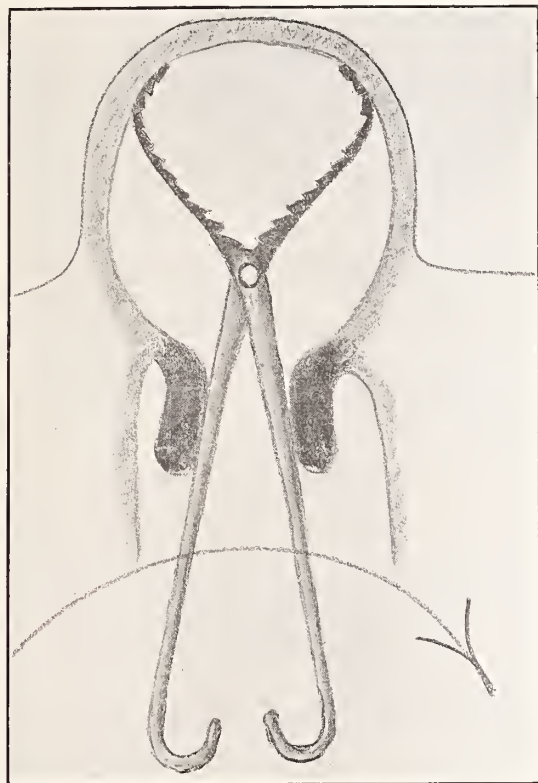


Figure 5. Complete introduction of the detacher for sweeping the upper segment.

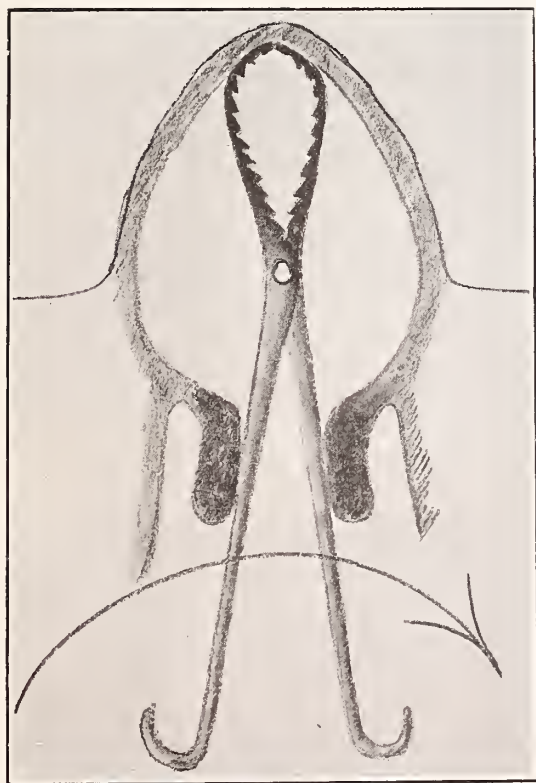


Figure 6. Last stage of the rotation completed, placenta and membranes caught in and surrounding the blades. The forceps are closed and ready to be withdrawn.

The auger principal of detachment is scarcely less dangerous than the curet and its use in detachment and delivery is principally in the stimulation of the uterine contraction.

Thorough disinfection as possible should accompany all instrumentation of the uterine cavity and be followed by tubal drainage in all septic cases.

THE DIETARY TREATMENT OF NEPHRITIS*

R. L. FENLON, M.D.

At the present time there are many dietary treatments of nephritis. The object of this paper is to present a convenient dietary therapy that is applicable to the disease, particularly of the chronic interstitial type.

The very low protein intake has many advocates, as has also the high protein diet of Epstein. Rather recently, an editorial appeared in the Journal of the American Medical Association questioning the advisability of an extremely low protein diet in nephritis. The diets given in full below, are the diets that have been in use at the University Hospital for the past year and a half. These all conform with the requirements of the needed protein intake as given by the Chittenden standard.

The following test diet is used to determine the degree of renal injury. This test is a readjustment of the original appearing in German. The urines are collected at regular intervals on the day of the test, these separate voidings are measured, and the specific gravity of each recorded. The noon and the five P. M. meals contain the bulk of the carbohydrate, and at these hours for a normal kidney, there should be a prompt period of diuresis as shown by the lowered specific gravity and the increased urinary output. The night urine should not exceed one-half of the day amount and the specific gravity of this specimen should be at least 1.019. The abnormal urinary findings, as shown by this test follow: (1) a constantly high specific gravity with variation in the readings; (2) nycturia or excessive night urine, which is generally accompanied by a low specific gravity; (3) a delayed or prolonged period of diuresis; (4) no diuresis demonstrable, and (5) a fixation of the specific gravity, that is, the readings on all of the specimens do not vary more than one or two points at the most. This is the most severe picture. As evident from

*From the Research Laboratory of the Department of Internal Medicine, University Hospital, Iowa City, Iowa.

this classification, the period of concentration should be just as prompt as the period of diuresis. The blood is examined on the day of the test. The uric acid is generally retained first, and urea nitrogen second; creatinine is the last to show retention. The early or mild types of nephritis give only an increase in the blood uric acid. The more advanced cases show also an increased urea while an increase of the creatinine is of very bad prognostic import.

The renal function test follows.
Instructions regarding the diet on the day of the test and the collection of the urinary samples.

Breakfast: 7:30 A. M.—1 glass of milk (240 cc.), 1 slice of bread (20 grams).

Lunch: 10:30 A. M.—Repeat above.
11:30 A. M.—4 ounces of water.

Dinner: 12:00 Noon—Oatmeal gruel 150 cc. (1.5 grams of salt, 20. grams of oatmeal, 200 cc. of water). Rice porridge 350 gm. (3.5 grams of salt, 88. grams of rice, 245 cc. of water).

Lunch: 3:00 P. M.—Repeat the 7:30 A. M. feeding.

Supper: 5:00 P. M.—Bowl of rice (with sugar) 200 grams (2 grams of salt, 50 grams of rice, 140 cc. of water).

6:00 P. M.—4.5 ounces of water.
Diet contain 1800 cc. of fluid and 7 grams of salt.

Give fluids only as charted above on the day of the test and until 7 a. m. the next morning. The day of the test collect the urine at 7 a. m. and discard it. Make and save the collections made at the following hours 9 a. m., 11 a. m., 1 p. m., 3 p. m., 5 p. m., 7 p. m. and 7 a. m. All specimens to be in separate containers and properly labeled.

Typical examples of the abnormal urinary pictures enumerated above:

7-9 A. M.	9-11 A. M.	11-1 P. M.	1-3 P. M.	3-5 P. M.	5-7 P. M.	7 P. M. 7 A. M.	Exam- ple of
0	154cc. 1.036	0	136cc. 1.036	94cc. 1.037	0	150cc. 1.040	(1)
147cc.	66cc.	170cc.	308cc.	145cc.	183cc.	780cc.	
1.015	1.019	1.016	1.006	1.018	1.012	1.008	(2)
115cc.	205cc.	247cc.	323cc.	315cc.	450cc.	245cc.	(3)
1.016	1.010	1.006	1.005	1.003	1.002	1.019	
80cc.	100cc.	240cc.	160cc.	140cc.	90cc.	300cc.	(4)
1.022	1.024	1.023	1.027	1.025	1.027	1.032	
170cc.	120cc.	170cc.	160cc.	130cc.	150cc.	730cc.	(5)
1.012	1.012	1.012	1.013	1.012	1.012	1.012	
NORMAL PICTURE							
55cc.	145cc.	270cc.	100cc.	140cc.	660cc.	270cc.	
1.016	1.016	1.010	1.021	1.016	1.011	1.019	

The above urinary pictures are taken in conjunction with the blood and weight of the individual patient. These factors guide us in the future dietary treatment of this particular case.

A case showing marked retention of uric acid and urea in the blood, a severe urinary picture and a body weight below 115 pounds is placed on the

40 gram diet. The 50 gram protein diet suffices for cases up to 145 pounds, the 60 gram up to 175 pounds. The milder types are placed on the 60 gram diet as a routine.

The following diets are built so as to be as nearly purine free as possible. This eliminates most of the exogenous supply of uric acid forming foodstuffs. The system has only to eliminate the endogenous products. In this manner the uric acid is controlled. These diets while maintaining the protein supply, at the same time avoid overworking the excretory system.

In the severe types of nephritis, the foodstuffs containing aromatic substances are also eliminated. This excludes celery, radishes, peanuts and asparagus.

LOW PROTEIN DIETS

40 Grams Per Day

Breakfast: (a) Canned peaches, orange, stewed apricots, pineapple, bananas, grapefruit, or stewed pears. (b) ½ glass of ½ milk and ½ cream (1 thin slice of bread may be included if the milk is excluded). (c) 1 egg. (d) 1½ pats of butter. (e) Small serving of oatmeal, medium serving of puffed rice, or large serving of rice. (f) Sugar as desired.

Dinner: (a) Large serving of either Irish or sweet potatoes. (b) One of the following vegetables: Small serving of peas. Medium serving of parsnips or string beans. Large serving of carrots or beets. (c) 1 thin slice of bread. (d) 2 pats of butter. (e) ½ glass of ¾ milk and ¼ cream. (f) ½ egg included in custards or cooked and sliced with the vegetables. If served as custard or dessert, combine with (e). (g) Sugar as desired. (h) 1 of following fruits may be served instead of custards: Banana—large serving. 1 baked apple. 3 halves of canned peaches.

Supper: (a) Large serving of potato or small serving of macaroni with cheese 1½ by 1 inch. (b) Butter 1 pat. (c) One of following vegetables: Medium serving of corn. Large serving of tomatoes or squash. (d) ½ glass of ½ milk and ½ cream. (e) Dessert, large serving of the fruit sauces such as pears, raspberries, bananas, cherries and 1 cookie or cornstarch pudding with dates.

50 Grams of Protein Per Day

Breakfast: (a) Orange, stewed apricots, grapefruit, canned peaches or pineapple. (b) 4/5 of a glass of 4/7 milk and 3/7 cream. 1 egg if the milk and cream are excluded. (c) 1½ pats of butter. (d) Small serving of grapeanuts, cream of wheat, oatmeal or rice. (e) 1 medium slice of bread. (f) Sugar as desired.

Dinner: (a) Large serving of Irish potatoes. (b) One of the following vegetables: Small serving of corn, beets or peas. (c) 1 thin slice of bread. (d) 1½ pats of butter. (e) ½ egg used in desserts as rice custard or served alone. (f) ¼ of a glass of ¾

milk and $\frac{1}{3}$ cream. (g) Sugar as desired. (h) Large serving of bananas or 12 dates with rice custard. 3 halves of canned peaches, medium serving of red raspberries combined with cornstarch or tapioca.

Supper: (a) Large serving of Irish or sweet potatoes or small serving of macaroni with cheese $1\frac{1}{2}$ by 1 inch. (b) 1 pat of butter. (c) One of following vegetables: Small serving of lima beans. Medium serving of turnips, tomatoes or celery. (d) 1 thin slice of bread or 4 crackers. (e) $\frac{1}{2}$ glass of $\frac{3}{4}$ milk and $\frac{2}{3}$ cream (as such or creamed soup). (f) Dessert: Large serving of fruit as baked apples, canned pears, peaches or smaller serving of several and combined as a fruit salad. (g) Sugar as desired.

60 Grams Per Day

Breakfast: (a) Fruits as above. (b) 1 glass of $\frac{3}{4}$ milk and $\frac{1}{3}$ cream. (c) 1 slice of bread. (d) 1 pat of butter. (e) Small serving of oatmeal, cream of wheat, corn meal, or 1 shredded wheat biscuit. (f) Serving of jelly or honey. (g) 1 egg. (h) Sugar as desired.

Dinner: (a) Potatoes as above. (b) One of the following vegetables: Small serving of lima beans or peas. Medium serving of beets, carrots or celery. Large serving of tomatoes. (c) Butter 1 pat with 1 tablespoon of olive oil dressing made with egg or 2 pats of butter if dressing is omitted. (d) $\frac{4}{5}$ of a glass of $\frac{4}{7}$ milk and $\frac{3}{7}$ cream (used as such or in ice cream). (e) 1 thin slice of bread. (f) Cheese or 2 dozen California walnuts may be served if milk in (d) is omitted. (g) Dessert, ice cream [part of milk in (d)]; fruits as bananas, medium serving of apple with celery as a salad, or baked apple. (h) Sugar as desired.

Supper: (a) Large serving of baked or creamed Irish potatoes; or small serving of macaroni and cheese as above. (b) One vegetable as: Small serving of corn, carrots or celery. Medium serving of tomatoes. (c) 1 thin slice of bread or 4 crackers. (d) 1 pat butter. (e) 1 glass of $\frac{3}{4}$ milk and $\frac{1}{4}$ cream (may use in custards or soup). (f) Desserts; rice custard (with above milk) with pineapple, fruit salad of banana, orange and dates. (g) 1 egg or cheese $1\frac{1}{2}$ by 1 inch. (h) Sugar as desired.

Omit all meat soups, gravies, meats, fish, coffee, Chocolate and Cocoa. Also onions and garlic.

That thousands of persons do not pay their doctor bills is the conclusion drawn from statements made by several Mason City doctors and physicians recently. The doctors carry bills aggregating many thousands of dollars on their books from year to year. Most of these are paid eventually but judging from the amount of unpaid bills reported by Mason City doctors, from 20 per cent to 40 per cent never pay.—Mason City Gazette.

THE COUNTRY DOCTOR

Dr. George B. Vincent, head of the Rockefeller Foundation, contributes to the October number of the Forum an article in which he points out that the passing of the country doctor is one of the results of the raising of standards in medical training. He says:

"One of the most disquieting results of the raising of standards in medical training is the reluctance of young doctors to settle in rural communities. This is sometimes attributed wholly to the hardships of country life and the small income of the rural doctor. These influences are doubtless potent, but they alone cannot explain the situation. A doctor who has had modern training is unwilling to be exiled from laboratory and hospital. He wants to be where he can command their resources and enjoy the comradeship of his professional colleague. He wants to keep in close contact with the newer developments in his own special field. The large town and city offer him a congenial and stimulating environment. The countryside can compete for his services only by developing a system of hospitals with laboratories and public health organizations which will provide reasonably satisfying conditions of work for a man with modern training. As has been indicated above, various experiments are being made with a view to demonstrating the possibility of offering in the country an attractive career to some of the men who are being graduated from our contemporary medical schools."

It has become evident in recent years that the problem is not one of getting enough doctors, but one of distributing them where they can do the most good. However, The Evening Tribune does not see in Iowa any immediate danger of the sort to which Dr. Vincent points. Distribution is imperfect, it is true, and cities are "over doctored" and rural communities "under doctored." Yet one of the best known physicians and one of the most efficient hospitals in Iowa are in a comparatively small town of the state, and the work being done there is indication enough that there are big opportunities for doctors in half a hundred such places over the state. The same ought to be true throughout the country.

The whole country is coming to have so many fair sized villages and cities every few miles that it ought not to be a difficult matter to interest doctors in practicing where their clientele must be largely rural. One of the ways to do that would be to equip them with facilities more nearly equal to those which equip the laboratories and hospitals in which they did their graduate work.

Community hospitals, built by the community and maintained by the sale of stock to members of the community, are not uncommon. Such an institution in every county or in every two counties is not at all impractical, and would put expert medical attention within reach of everybody.—Des Moines Tribune.

The Journal of the Iowa State Medical Society

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THE MEDICAL PROFESSION OF TODAY

An address by Dr. Angus McLean before the Michigan State Medical Society at Bay City is worthy of serious consideration, and raises a question as to the logical attitude of the profession. Commenting on the statement that has gained currency "that notwithstanding the fact that more progress has been made in medical science in the last thirty years than in any similar period in the world's history, there exists among millions of the population an antipathy toward the profession." He referred to the statement that 40,000,000 persons in this country are believers in drugless healers. He said, "Should we not make a psychological dissection of the public mind to discover why there is more sympathy shown towards these cults than to scientific medicine? If it is that medicine and the practice thereof, has changed in the last twenty-five years so that it does not appeal to a large portion of the laity, let us inquire and find why." The inquiry should extend to the attitude of the profession towards the public. If Dr. McLean would review the controversy between the regular profession and homeopathy in Michigan from 1855 to 1899 he would find some helpful suggestions. During that time, it is true, the practice of medicine was based on theory which the general public understood as the "old system," and the "new system" of medicine, but what the real difference was people generally did not know. During all this time the new school gained the ear of

the public and secured nearly all they asked of the legislature. In 1906 there were 501 homeopathic physicians practicing in Michigan. What was the psychological attitude of the regular profession? Always bitter antagonism. As soon as medicine was based on scientific research and scientific discoveries then the controversy began mutually to decline and very little is heard of it now.

The bitter war between the old and new schools is ended. But new enemies appear under different names. Christian Scientists, Chiropractors, Osteopaths and others; and State Medicine. The last is of course economic. Should not the medical mind be analyzed? Should not diplomacy learn a lesson from fifty years of experience? The family relations of the regular and homeopathic physician were the same; they came to the bedside with the same attitude, and the families employed the one or the other school according to their faith. Today, where is the family physician? He is pursuing the full scientific medical course, selecting some specialty and going to the city, or large town, opening an office and declining the family calls as too uninteresting and too unprofitable; he has lost his contact with the public; and the public has turned to the "new idea" in medicine as they did to homeopathy in Michigan sixty years ago or more.

We do not seem to understand why, but the old battle is waged over again. Unfortunately we see only one side of the contest and propose to dissect the psychology of the enemy, but do not analyze our own state of mind.

Another condition has arisen, and that is the necessities of business. While studying the aggressive Michigan Medical Journal our eyes fell upon a paper published in Munsey's Magazine by Senator Bert M. Fernald on "How the Government can encourage Business." Reference to "Who Is Who," we find that in addition to being an U. S. Senator he is a packer of canned goods, director Fidelity Trust Co. (of Portland) and other lines of big business. Senator Fernald's controversy is mainly with the government. He unhesitatingly holds that "business" should utilize any agency that will promote "business," without government interference. Among other things he says; "Certain professions are now so closely affiliated with the business of the country and the fees charged are so exorbitant, that it would seem that they too, should be placed under the same restrictions." Senator Fernald believes as many purely business men do that all governmental restrictions should be removed and allow free competition to settle the various questions.

It seems as if we could read between the lines a medical service to big business on their own terms; a service not much thought of but necessary. We have often heard it said since Chiropractic had been legalized in Iowa that little sympathy was felt for it as a means of cure, but it represented "good business" because the latest and most improved methods of advertising had brought "big business" and big profits to a most audacious adventurer. If we can today accept the history of the past as bearing on the future, this extraordinary phenomenon will vanish to appear of course in some other form. But we are discussing the philosophy of "business" if this term may be used. We hear every hour of our life "business," good business, big business, high tariff for good business, low tariff for business, disregard of treaties for business, high wages, low wages until the most ardent student of Adam Smith's *Wealth of Nations*, which was once regarded as a masterly work on philosophy of business and national wealth, falls into most profound mental confusion. The same state of confusion exists in medicine, and if we do not know the right way how can we expect the laity to know better. A group of distinguished educators hold that full time clinical teachers in our great medical universities will contribute greatly to the efficiency of medical teaching, and so do wealthy representations of big business, as shown by the liberal donations for this purpose, such is in accord with their experience in business; but our committee on medical education discovers great danger in methods advocated by the experienced heads of our great universities. The terms on which these objections are based, lead to the belief that these objections are for the selfish purpose of retaining college professorships in connection with exceedingly profitable private business.

Then there are men who believe that the welfare of the people depend upon compulsory health insurance. On the other hand there is a large and influential group of doctors who attack the plan in the most bitter manner and in terms that lead the unprejudicial mind to believe that a very large number are influenced by the fear of reduced income, and not because of public expense or inferior medical service and refer to the alleged failure of this form of practice in foreign countries, totally disregarding the statements of the executive secretary of the British Medical Association and the reports of the *British Medical Journal* and *London Lancet*. (The latter *Journal* in a recent editorial recommended the plan for the United States with certain amendments.)

The same antagonism was made against work-

man's compensation which has been adopted by nearly all the states, and none have repealed the law. Group diagnosis and treatment is receiving the same objections. In short we must continue in the same economical paths of our fathers and grandfathers.

We have made most remarkable strides in the technique of medicine and surgery, but we have kept the old beaten paths so far as our economical relations are concerned, and the public know it and are losing confidence.

When we understand our own psychology, and when we know what we want as a profession and what we want as individuals, then we may expect that the public will be with us. It will be recalled when the original Lloyd George bill was passed and the profession arose against it Lloyd George invited a conference of the objectors and asked them what they wanted but were unprepared to say in any definite way. He remarked that when the profession of Great Britain knew what they wanted the government would be in a position to do something for them. Does any one suppose His Imperial Majesty Palmer would allow an open dispute as to the methods of medical education or of medical practice? The Chiropractors, the Osteopaths, the Christian Scientists know what they want, there is no doubt in their methods and the public applaud.

There is another thing to be considered, and that is the return of the old time family physician and a supply to the country towns. Today the highly trained physician goes to the larger towns to be a specialist. He has no interest in the family practice and the family has no interest in him and so we stand aloof. We have no skill in personal advertising. Dr. McLean's suggestion is a good one, let him go to the old country doctor who has succeeded, he knows how people feel, or he may go to the old family doctor in the city who has succeeded. He may not be a learned doctor but he knows the people and he probably has a following among old families—not the aristocratic people, but the common people. After all, we will get what we are entitled to as individuals, but if we want more as a profession we must join together and agree on some policy and go to the people with it, this conflict of policy will never secure the ends that we as a profession desire.

Minnesota Medicine announces the appointment of Dr. Everett K. Geer as assistant editor in charge of the department of Book Reviews. The *Journal* invites any reader of a particular good book to write out a review for the *Journal*. This is a valuable sug-

gestion in stimulating a more analytical study of a book worth while.

June 2, Dr. Hugh Cabot, professor of surgery at the University of Michigan, was appointed dean of the medical school. The present dean, Doctor V. C. Vaughan, resigned several months ago after serving the university faithfully and well for thirty-four years.—*Journal Michigan State Medical Society*, July, 1921.

The National Board of Medical Examiners has just completed the first five years work and with it the trial period of its usefulness. The principle which this board has stood for, namely, the establishment of a thorough test of fitness to practice medicine which might safely be accepted throughout this country and abroad, has been widely accepted. Since this board was organized by Dr. W. L. Rodman, in 1915, eleven examinations have been held. These examinations have been conducted on the plan of holding at one sitting, a written, practical and clinical test for candidates with certain qualifications, namely a four-year high school course, two years of college work, including one year of physics, chemistry and biology, graduation from a Class A medical school and one year's internship in an acceptable hospital. These examinations have covered all the subjects of the medical school curriculum and have been conducted by members of the board with members of the profession resident in the place of examination appointed to help them. Such examinations have been held in Washington, Philadelphia, New York City, Boston, Chicago, St. Louis, Rochester, Minnesota and Minneapolis. During the war a combined examination was held at Fort Oglethorpe and Fort Riley. There have been 325 candidates examined, of whom 269 have passed and been granted certificates.

Starting with the endorsement of the Council on Medical Education of the American Medical Association, American Medical College Association and various sectional medical societies, the recognition of the army, navy and public health service medical corps of the United States and certain state boards of medical examiners, the certificate is now recognized. Also by twenty states as follows: Alabama, Arizona, Colorado, Delaware, Florida, Georgia, Idaho, Iowa, Kentucky, Maryland, Minnesota, Nebraska, New Hampshire, New Jersey, North Carolina, North Dakota, Pennsylvania, Rhode Island, Vermont and Virginia, the Conjoint Board of England, the Triple Qualification Board of Scotland, the American College of Surgeons and the Mayo Foundation of the University of Minnesota.

There has been such a widespread demand for an opportunity to secure this certificate by examination, that the board has now adopted and will put into effect at once, the following plan: Part I, to consist of a written examination in the six fundamental medical sciences: Anatomy, including histology and embryology; physiology; physiological chemistry;

general pathology; bacteriology; materia medica and pharmacology. Part II, to consist of a written examination in the four following subjects: Medicine, including pediatrics, neuropsychiatry, and therapeutics; surgery, including applied anatomy, surgical pathology and surgical specialties; obstetrics and gynecology; public health, including hygiene and medical jurisprudence. Part III, to consist of a practical examination in each of the following four subjects; clinical medicine, including medical pathology, applied physiology, clinical chemistry, clinical microscopy and dermatology; clinical surgery, including applied anatomy, surgical pathology, operative surgery, and the surgical specialties of the diseases of the eye, ear, nose and throat; obstetrics and gynecology; public health, including sanitary bacteriology and the communicable diseases.

Parts I and II will be conducted as written examinations in Class A medical schools and Part III will be entirely practical and clinical. In order to facilitate the carrying out of Part III, subsidiary boards will be appointed in the following cities, Boston, New York, Philadelphia, Minneapolis, Iowa City, San Francisco, Denver, New Orleans, Baltimore, Galveston, Cleveland, St. Louis, Chicago, Washington, D. C., and Nashville, and these boards will function under the direction of the national board. The fee of \$25 for the first part, \$25 for the second part and \$50 for the third part will be charged. In order to help the board the Carnegie Foundation has appropriated \$100,000 over a period of five years.

At the annual meeting held June 13, of this year in Boston, the following officers were elected, H. M. Ireland, surgeon general, president; J. S. Rodman, M.D., secretary-treasurer, E. S. Elwood, managing director.

Mr. Elwood will personally visit all Class A schools during the college year to further explain the examination, etc., to those interested. Further information may be had from the secretary-treasurer, Medical Arts building, Philadelphia.

SUMMARY OF ORGANIZATION SUGGESTIONS AND ACTIVITIES TO BE CARRIED OUT, DURING THE NATIONAL CANCER WEEK

The exact date of this campaign, which will probably be held sometime in November, will be announced later.

The following pages contain a more detailed plan of what is desired to be undertaken during this national campaign. The main features, may however, be summarized as follows:

1. Organization—As it is desired to reach all parts of the country and as many of the population with the hopeful message of cancer control as possible, it is of course necessary to effect a complete organization, before anything else can be done. It is therefore recommended that the state chairman undertake to see that a chairman of a local committee

is appointed for every community of five thousand population or more in his state. The chairman of these local committees should then select their local committees for the purpose of carrying out the following program.

2. Activities to be Undertaken—The aim in this campaign is, as stated above, entirely educational, and designed to reach as many people as possible. The three main activities to be pursued may be briefly summarized as follows:

(a) Lectures—A lecture bureau should be established and the lecturers instructed by use of the society's syllabus, as to how the subject should be presented. Lectures should include both those arranged for professional groups, such as medical societies, nursing organizations, etc., and those for the general public.

(b) Literature—The society will provide a moderate quantity of literature to be distributed at meetings. As the amount available for any state must at this time be apportioned in accordance with some arbitrary method, such as population or number of members in the society from that state, it is quite probable that it will be desirable for either the state committee or local committees to secure a modest sum for the purchase of additional printed matter. This can be secured at cost from the National Society, the little circular "Vital Facts About Cancer" recommended for this purpose being quoted at \$20 per five thousand or \$35 per ten thousand.

(c) Publicity—This also falls naturally under two main headings, articles in professional journals and those in the lay press. It would probably be desirable to place the latter in the hands of a trained newspaper man for all material should be carefully prepared and edited before it is given out. The news articles are simple; but abstracts or digests of the lectures given should be handled with extreme care. The editors of medical journals should be asked to cooperate by calling the campaign to the attention of their readers and asking for the cooperation of the profession. Editors of these journals will doubtless be willing to feature the educational campaign for the control of cancer in some number preceding the campaign.

Skeletonized Outline of Plan for the Guidance of Chairmen as Suggestions for Organizing Their Work and Carrying on the Activities During the National Cancer Week

I. Organization of the campaign.

(a) In order that the campaign be uniform throughout the country and reach all parts of the nation the state chairmen should appoint their local chairmen at the earliest possible moment.

(b) As soon as appointed the local chairmen should select their local committees. The personnel of these committees will differ according to local conditions but they should be made up of those best qualified to carry on the educational work of the society in all its phases.

(c) As a means to this end it appears advisable

to suggest that the work be placed in the hands of an executive committee whose members should be so divided as to comprise the following sub-committees:

1. Sub-committee on lecturers—the duty of this committee should be to get together an adequate corps of lecturers to address audiences during the campaign.

Lecture outlines will be supplied by the national society. It is suggested that the chairman call all his lecturers together prior to the campaign in order to go over the syllabus with them for the purpose of indicating just what should be covered and the way to present it.

2. Sub-committee for the arrangement of lectures—the duty of this committee should be to secure the cooperation of all possible agencies for the purpose of holding as great a number of lectures as can be adequately handled by the lecture staff available.

3. Sub-committee on literature—the duty of this committee should be to secure either from the national society or locally enough literature to distribute at all public meetings.

4. Sub-committee on publicity—the duty of this committee should be to secure contact with editors of all local newspapers and supply them with the news facts concerning the campaign such as dates, meetings to be held, names of lecturers, etc., and also to provide the papers with typewritten abstracts of the more important addresses to be published after the lectures have been given. This committee should also secure the cooperation of managers of moving picture theatres. If a slide (similar to that suggested below) could be shown in these theatres it would be most valuable as a means of bringing the campaign to the attention of the public.

II. Activities to be undertaken.

(a) Health Department—A representation of the local committee should wait upon the health officer of the state as well as health officers of the larger cities for the purpose of interesting them in the campaign and enlisting their cooperation. The health officer or his representative should be appointed to serve on the committee. Specific suggestions which might be made to health departments are as follows:

1. If a lecture staff is available in the department of health, ask the health officer to acquaint them with the cancer problem and make them available for public lectures on the subject. The society's lecture syllabus is available for this purpose.

2. If a regular department bulletin is issued, persuade the editor to devote a whole number or at least part of an issue to cancer control information. The publications of the society are available for this purpose.

3. The department of health should be invited to take an active leading part in the arrangement and conduct of these public lectures. In this way the value of the department's prestige will be added to the campaign and it should be of great assistance in securing the right kind of publicity.

4. In certain large cities the department may have

health centers or clinics which might for this week be turned over for the purpose of displaying a cancer exhibit, perhaps combined with some other public health material.

5. In each instance the department of health should be asked to provide the committee with the latest mortality figures on cancer for use in the public lectures. These could also be made up in chart form to be used at the cancer exhibits.

(b) Medical Societies—The committee should make every effort to interest both the state medical associations and the local academies of medicine and county societies. It would appear advisable to have officers of these medical organizations represented on the committee.

1. Hold one meeting for their membership during the cancer week. A most valuable suggestion has been made in this connection by Dr. Donald C. Bal-four of Denver, regional director of the Rocky Mountain States, namely: that each state chairman suggest to the presidents of the various medical societies in his state that this cancer meeting conform, as far as possible to the following program:

(a) Present day conceptions as to the cause of cancer.

(b) Recent progress in the study of cancer.

(c) Present methods of dealing with cancer.

(d) What can be reasonably expected to be accomplished in the future.

(e) What progress is being made in shortening the interval between the first visit to the physician and radical treatment.

2. Hold at least one meeting for the public under the auspices of the medical society during this week.

3. The editor of the journals of both the state medical societies and the local medical groups should be requested to feature the subject of cancer control in the current number of these publications.

(c) Medical Schools and Colleges.

A special effort should be made through the dean or head of the department of pathology or of public health education (in those medical schools where they exist) to take part in the campaign by:

1. Devoting at least one lecture to the subject of the prevention and control of cancer.

2. By carrying appropriate cancer announcements and cancer control information in any bulletins or circulars which may be sent out at that time.

(d) Nurses Training Schools

The superintendent of no hospital should escape a visit from a representative of the cancer committee. They should be asked to devote at least three lectures on this subject to nurses during this campaign, as follows:

1. Cancer of the skin and buccal cavity including a general discussion of the cancer problem as contained in the lecture syllabus.

2. Cancer of the breast and uterus.

3. Internal cancers.

(e) Nurses Organizations.

The regular nurses' organizations should be in-

cluded in the activities of this week. They might be asked to cooperate in the following ways:

1. A meeting of their members should be held and the public health aspects of the cancer problem presented by a lecturer qualified in this respect, perhaps one connected with the department of health.

2. Industrial welfare workers and nurses should also be reached in those cities where there are sufficient numbers to warrant a special lecture.

3. A special meeting for Red Cross, visiting nurses and public health nurses might also be arranged either collectively or separately.

(f) Schools for Health Officers.

1. The directors of all schools for the training of health officers either in medical schools or in universities and colleges should be asked to arrange for at least one lecture devoted to the public health aspects of the cancer problem.

(g) Insurance Companies.

1. The medical directors and medical examiners of all life insurance companies, should be requested, through the official channels of such companies, to take an active part in this campaign.

2. Where welfare workers and visiting nurses are employed by these companies, lectures on the subject should be arranged for them.

(h) Federation of Women's Clubs.

1. The State Federation of Women's Clubs should be asked to cooperate to the fullest. An effort should be made to have them feature cancer on the health program of their annual meetings in the fall.

2. The state federation should be requested to assist the cancer committee in stimulating interest in the subject on the part of their local clubs.

3. Any woman's club which exists locally should arrange a lecture for its membership. It would be even more effective if this could be a public meeting for women whether club members or not.

(i) It is obvious that different non-professional groups will be organized in the larger cities and towns of the country. Where these exist an effort should be made to have a lecture given for the membership of each of these organizations. Those which come to mind are:

1. All welfare and social service organizations.

2. Chambers of commerce and boards of trade.

3. Manufacturers and merchants associations.

4. Labor unions and trades councils.

5. Ministerial and other clerical groups.

6. Church clubs, (men and women)

7. Rotary and Kiwanis Clubs.

8. Fraternal orders and lodges.

9. Y. M. and Y. W. C. A.'s and Y. M. and Y. W. H. A.'s and Knights of Columbus.

10. Civic Clubs.

11. Literary and study clubs; and any others which may exist locally.

(3) Demonstration and Diagnostic Clinics.

This campaign presents an excellent opportunity for those committees operating in large cities to interest the local medical organizations and hospitals

in the holding of dry clinics (non-operative) for demonstration and diagnostic purposes. Such clinics have been successfully held by the New York State Department of Health and by Dr. Wainwright of Scranton in the conduct of his "Cancer Days." The following suggestions for such clinics are submitted by Dr. Wainwright:

1. Get all the physicians in the city and vicinity personally interested. Form your local committee of arrangements so that there is a representative for each school, faction and hospital. Local and professional distinctions must give way to public health.
2. See that every physician in city and vicinity receives a preliminary letter about two weeks and a follow-up postal card reminder about two days before the proposed meeting.
3. Get the local papers to announce the plans and purposes of your meeting three or four days before, with another brief note on the morning of the day. This will bring many patients to your clinics who are not under the immediate care of any physician.
4. Have simultaneous clinics in the afternoon in as many hospitals as are available. Remember that dry or demonstrative clinics are in general more valuable than operative clinics. More cases can be shown, they can be demonstrated better, everybody present can see them. Experience has proved them much more interesting and instructive. An ordinary room will do and an operating amphitheatre is not needed.
5. Arrange for a dinner for the convenience of men from out of the city. Have it as low priced as possible. Its purpose is only to give visitors an opportunity to eat between meetings, it is not a "banquet."
6. The evening meeting should be a symposium on cancer at a union meeting of all the local medical societies. On a general public meeting can be arranged, or one or two of the speakers can leave the afternoon or evening meetings and address the "Women's Club" or some similar meeting. The success of the public meeting or whether it is advisable at all will depend so much on local conditions that general advice cannot be given. Get the papers to report all meetings.
7. Professional and lay meetings should be held separately. It would also be available to hold a short, more personal meeting after a public lecture for those who desire specific information.
8. The advisability of getting speakers and men to give the clinics from out of your city as a drawing card and to increase interest will also be best determined by the local committee of arrangements.

The officers of the State Society of Iowa Medical Women for 1921-1922 are: President, Dr. Josephine Wetmore Rust, Mason City; vice-president, Dr. Jennie M. Coleman, Des Moines; secretary, Dr. Julia F. Hill, Grinnell; treasurer, Dr. Eleanor M. Hutchinson, Woodward.

STATE UNIVERSITY NEWS ITEMS

(Dr. Don M. Griswold)

Dr. Marion O'Harrow, University of Michigan, has been added to the staff of the student health department. Since graduation, Dr. O'Harrow has been at the Philadelphia hospital for women, and for the past two years has been carrying on work for the Interdepartmental Social Hygiene Board. Her work will be that of medical adviser and consultant to the girls of the University.

Dr. Norman Loud has reported for duty to the student health service, as medical adviser and consultant for the men of the University. After graduating at Harvard, Dr. Loud spent two years with Dr. Grenfel at his hospital in Newfoundland.

The student health department are giving their annual physical examination of all first year students. This examination includes eye, ear, nose, throat, heart and lungs, kidney function, and throat culture. All members of the football squad have been examined and those seeking exemption from military work at the University, are receiving attention.

The Nurses' Training School of the University Hospital entered a class of forty probationers this month. These girls are all high school graduates and an increasing proportion each year are graduates of the College of Liberal Arts. The combined course of liberal arts and nursing shortens the period of both the hospital work and class-room work, and is a course, that is becoming more popular each year.

Miss Buleauh Crawford has arrived at the University Hospital Nurses' Training School to take a position of Instructor of Nurses. The work will be made out on a university basis and the course made very complete in both theoretical and practical work.

Miss Ione Orr, who recently resigned as chief surgical clinic nurse, University of Michigan Hospital, has been appointed general superintendent and instructor in practical nursing at the University Nurses' Training School.

Instructors in the Nurses' Training School are being added to the staff to keep pace with the increased requirements in the nurses' field and this training school is requiring some of the best prepared teachers in this field.

Dr. A. J. Lomas, recently an assistant superintendent of Johns Hopkins Hospital, has arrived to be superintendent of the University Hospital, vice Dr. Graham, who has been acting superintendent for the past few months.

Dr. T. L. Patterson, assistant professor of physiology in the College of Medicine, has resigned to ac-

cept the appointment of professor and head of the department of physiology at the Detroit College of Medicine.

Dr. A. M. Falls, formerly of Chicago, has been appointed professor and head of the department of obstetrics and gynecology at the University Hospital. Drs. Christy and Peterson have been appointed assistants in the department.

The summer clinics for physicians was highly successful this year and this particular phase of post-graduate work at the University Hospital is being developed rapidly. The enrollment is limited to a small number for each clinic, so that intensive work in the specialties can be given physicians who are desirous of taking up special lines of work. At the close of the clinic this year several men registered for the following summer, and several others thought they would plan to come back for another summer session at the University Hospital. The physicians taking the course expressed their appreciation to the chiefs of the various clinics by tendering a dinner at the end of the course.

The freshmen class in the College of Medicine will probably be the biggest in its history. One hundred sixteen were registered before school opened.

On Wednesday, September 28 there was organized a clinical society of the University Hospital. This organization is intended to get together the various departments for clinical study and to review cases on an interdepartmental basis.

Dr. F. R. Peterson, assistant pathologist in the University Hospital Laboratory was married September 7 to Miss Coral A. Johnson at Laurens, Iowa.

Dr. Merl R. French, for the past year resident physician at the Contagious Disease Hospital, has been appointed assistant in the department of epidemiology and preventive medicine.

Jack J. Hinman, Jr., the chief of the water analysis division, state board of health laboratory, is confined to the hospital with a mild case of diphtheria.

SOCIETY PROCEEDINGS

Resolution of the Greene County Medical Society Upon the Death of Dr. S. M. Kline

Whereas, Providence has removed from our midst, Dr. S. M. Kline, of Scranton, Iowa, therefore be it

Resolved, That we lament ours and the community's great loss in the death of Dr. Kline, a man of most genial disposition. We esteem Dr. Kline as one of our best citizens, always ready to do his full duty to his fellow man, and doing his part in the progress of his city.

Resolved, second, that we recognize in Dr. Kline

the high characteristics of a progressive, up-to-date physician, loyal to the best interests of our profession and giving his time freely and generously to the public, both as a physician and as a citizen.

Resolved, third, that we extend to his family, our deepest sympathy.

Resolved, fourth, that a copy of these resolutions be sent to his family, that a copy be furnished the daily press and the Iowa State Medical Journal, and that these resolutions be properly engrossed on the records of the Greene County Medical Society.

Dr. B. C. Hamilton,

Dr. L. F. Hoyt,

Dr. G. W. Kester,

Committee.

Kossuth County Medical Society

A quarterly meeting of the Kossuth County Medical Society was held at the Woodmen Hall in Bancroft on Tuesday, September 13. Doctors Kenefick and Hartman of Algona, Clapsaddle of Burt, and Devine and Maher of Bancroft were present.

Polk County Medical Society

Polk County Medical Society opened their monthly meetings at the Grant Club, September 27, following an absence of two meetings, July and August.

We were especially honored at this time by having as our guest Dr. Frank Billings of Chicago, who occupied the entire evening by giving an informal address, dealing with the public health question, also reminiscences of the social and business side of medicine, comparing the methods used in the past to those of the present.

Dr. Billings deplored the over development of the specialism in medicine and urgently emphasized the need for more and better general practitioners.

Seventy-five were present at the banquet. Total attendance at the meeting, including guests from nearby towns, was about one hundred and seventy-five.

A rising vote of thanks was given to Dr. Billings to show our appreciation, and we will all look forward to the time when we might be favored again by him.

H. E. Ransom, Sec'y.

Scott County Medical Association

Thirty-five members of the Scott County Medical Association attended the dinner meeting held September 6 at the Davenport Chamber of Commerce. Several new members were admitted to the association and it was decided to hold the meetings of the society in the Davenport library in the future. Other routine business was transacted. Following the dinner, talks were given by Dr. Paul White and Dr. Frederick Lamb. Dr. White gave an illustrated lecture on the "Uses of Radium" exhibiting a number of slides showing the results of radium treatment. Dr. Lamb read an interesting paper on the subject "The Hemolytic Anemia of Pregnancy."

Scott County Medical Society

A regular meeting of the Scott County Medical Society was held Tuesday evening, October 4, in the Chamber of Commerce, Fourth and Main streets, Davenport. Dinner was served at 6:30 p. m. Meeting called to order at 8 p. m.

Program—Dr. J. G. Rohrig, The Influence of Nasal and Accessory Sinus Diseases on the General System.

Members who have overlooked paying their 1921 dues, please do so at your earliest convenience. Dues are \$10 per year. Make checks payable to Dr. S. G. Hands, treasurer, 615 Putnam building, Davenport, Iowa.

Have you taken advantage of the services of The Professional Exchange and Credit Bureau?

The Professional Exchange and Credit Bureau takes care of your telephone calls and locates you when you are away from your office or home.

The Professional Exchange and Credit Bureau helps you collect your dead-beat and outlawed accounts.

Call Davenport 2142 and ask Mr. Vannette about this service.

R. E. J., Sec'y.

Wapello County Medical Society

The Wapello County Medical Society, which is the only society in Iowa planning and carrying out an elaborate study course, has issued its calendar for the coming year. This is the society's sixteenth annual program.

Dr. W. E. Anthony is president of the organization; Dr. D. E. Graham, vice-president; Dr. H. W. Vinson, secretary; Dr. J. F. Herrick, the delegate to the State Medical Society, with Dr. W. C. Newell as alternate. The board of censors is made up of Drs. C. B. Taylor, E. G. Barton and E. A. Sheafe. The Ottumwa Hospital advisory board is Drs. M. Bannister, J. F. Herrick and E. T. Edgerly.

Meetings are held every two weeks, with the first one Tuesday of this week. At that session Dr. Maude Taylor discussed "Benzyl Benzoate," and Dr. W. E. Anthony, "Luminal."

A wide variety of subjects will be discussed during the year, two leaders appearing on each program. Several out of town physicians and surgeons will be here.

Dr. E. A. Erskine of Cedar Rapids will discuss X-Ray Therapy on October 18. Dr. M. C. Macken of Mt. Pleasant and Dr. Walter L. Bierring of Des Moines appear on the January 17 and February 7 programs, respectively. On April 4 Dr. D. S. Fairchild of Clinton will discuss "Some Problems of Future Interest to the Medical Profession."

The only man on the program not a physician or surgeon is W. H. Powell, managing editor of The Courier. Mr. Powell will speak before the members of the society on March 7. His subject will be "Quacks and Cure-Alls."

The members of the society follow: E. Anthony, W. E. Anthony, M. Bannister, E. G. Barton, D. C.

Brockman, E. T. Edgerly, J. W. Elerick, A. B. Fair, D. E. Graham, L. A. Hammer, Wm. Hansell, Whitfield Hansell, F. C. Hecker, E. B. Howell, J. F. Herrick, W. J. Herrick, C. E. Huband, C. B. Jackman, B. D. LaForce, E. J. Lambert, Eppie McCrea, F. M. McCrea, D. McElderry, F. W. Mills, H. H. Moore, J. C. Moore, F. L. Nelson, W. C. Newell, D. T. Rambo, C. S. Reed, R. F. Shahan, E. A. Sheafe, S. A. Spilman, Maude Taylor, C. B. Taylor, F. E. Vance, H. W. Vinson, A. O. Williams.

Waterloo Medical Society

Standing committees were appointed and plans considered for the coming year of meetings by the Waterloo Medical Society at its first session after the summer recess at Hotel Russell-Lamson. Twenty-one physicians attended the meeting. Dr. T. F. Thornton, president of the society, presided.

Iowa and Illinois Central District Medical Ass'n

The annual meeting of the Iowa and Illinois Central District Medical Association was held on Thursday afternoon and evening, August 25, at the Davenport Outing Club. Dr. G. F. Harkness of Davenport, president of the association was the first speaker on the program choosing for his subject local medical problems. Davis S. Hillis of Chicago, gave a talk on "Cesarean Section" which was followed by an address by Dr. James C. Masson of Rochester, Minnesota, whose subject was "Carcinoma of the Stomach." An address by P. A. White of Davenport on "The Uses of "Radium," a talk on "Renal Function Tests," by Dr. F. H. Lamb of Davenport and an address by J. E. Rock of Davenport on "Vincent's Angina as Seen in Civil Practice."

Dr. Lawson G. Lowry of Iowa City "An Analysis of the First Hundred Cases Admitted to the Psychopathic Hospital."

Officers elected by the association were as follows: President, Dr. E. Sargent, Moline; vice-president, Dr. F. H. Lamb, Davenport; secretary, Dr. G. H. Leipold, Moline; treasurer, Dr. W. D. Snively, Davenport. Censors named were Dr. O. P. Sala and Dr. F. J. Otis of Moline. About seventy-five attended the meeting.

Southern Minnesota Medical Association

The annual meeting of the Southern Minnesota Medical Association will be held at Mankato, Minnesota, December 5 and 6, 1921.

The program will measure up to the high standard established by the Southern Minnesota Medical Association and will be mailed to you on or about November 10, 1921.

Dr. N. Allison, St. Louis, Missouri, A Study in Bone Atrophy. Dr. A. W. Adson, Rochester, Minnesota, Surgical Aspects of Neurological Surgery. Dr. H. M. Connor, Rochester, Minnesota, Serous Effusions of the Chest. Dr. F. E. Leavitt, St. Paul, Minnesota, Fifty Cesarean Sections. Dr. C. J. Rowan, Iowa City, Iowa, The Causes of Failure of

Operations for Chronic Appendicitis. Dr. C. R. Ball, St. Paul, Minnesota, Psycho-Therapy. Dr. J. C. Masson, Rochester, Minnesota, Retroperitoneal Lipomata. Dr. R. A. Barlow, Rochester, Minnesota, Recognition of the Sphenopalatine Ganglion. Dr. B. S. Gardner, Rochester, Minnesota, The Dental Examination. Dr. A. C. Baker, Fergus Falls, Minnesota, The Treatment of Empyema. Dr. W. G. Workman, Tracy, Minnesota, Cystic Disease of Bone. Dr. E. J. Huenekens, Minneapolis, Minnesota, Some Simple Factors in the Health of Older Children. Dr. E. Z. Wanous, Minneapolis, Minnesota. Subject to be given later.

Aaron F. Schmitt, M.D., Sec'y-Gen'l.

Botna Valley Medical Society

The annual meeting of the Botna Valley Medical Society was held at the Masonic Temple September 29 following the banquet at the Calumet Cafe at which thirty-eight members were present.

Nine addresses of twenty minutes each, followed by five minute discussions were presented at the meeting, which convened at 1 o'clock. Dr. John Prentiss Lord of Omaha talked on the After Care of Joint Injuries; Dr. Granville Ryan of Des Moines, on The Treatment of Goiter; Dr. A. J. Zook of Adair, on Lung Complications following Teeth Extractions; Dr. H. Gifford of Omaha, on Corneal Ulcers in Trachoma; Dr. Newell Jones of Omaha, on Intestinal Obstruction in Children; Dr. G. A. Young of Omaha on Psychiatry; Dr. Oliver J. Fay of Des Moines, on Trauma, and Dr. R. M. Cullison of Atlantic, on Gastric Ulcers. A symposium on the early recognition of cancer was given, with lantern slides, by Drs. Max Emmert and Palmer Findley of Omaha.

In the business session Dr. H. Gifford of Omaha was chosen president to succeed Dr. M. Moore of Walnut; Dr. E. A. Moore of Harlan, was elected vice-president, and Dr. W. S. Greenleaf of Atlantic was re-elected secretary and treasurer.

Doctors in attendance at the meeting are: M. F. Stultz, M. E. Schriver, R. M. Cullison, R. A. Becker, J. Harry Murphy, A. Weaver, Newell Jones, G. A. Young, Granville Ryan, C. F. Baumeister, G. C. Giles, J. Bisgard, R. F. Childs, W. H. Halloran, S. M. Ferguson, Max Emmert, E. A. Moore, Earl Montgomery, K. L. Thompson, John S. Scummers, Louis A. Thomas, R. A. Weston, G. A. Spaulding, C. L. Campbell, A. B. Morse, L. G. Patty, W. S. Reiley, S. F. Emmert, D. D. Quigley, H. W. Williams, H. H. Penquite, R. B. Chisholm, Palmer Findley, F. A. Ely, F. Hanna, H. Gifford, A. J. Zook, W. F. Graham, R. L. Barnett, O. J. Fay, W. S. Greenleaf, V. D. French, E. T. Huff, C. F. Cron.

HOSPITAL NOTES

The new plan of operation of the Des Moines City Hospital worked out by the trustees, providing for a complete reorganization, went into effect Thursday morning. The professional staff is divided into three groups and is organized for one year.

Under this new plan there will be a house physician in charge at all times, Dr. W. W. Kitson and Dr. George S. Marquis having been employed for this service. The new staff is:

General Surgery—Drs. J. C. Rockafellow, E. J. Harnagel, W. B. Hight, Howard D. Gray, C. E. Holloway, J. W. Osborne, C. J. Ryan.

Orthopedic—Dr. A. P. Stoner.

Urologic—Drs. W. R. Hornaday, V. A. Ruth.

Head Surgery—(Eye, ear, nose and throat)—Drs. W. W. Pearson, C. P. Cook, J. A. Downing, R. H. Parker, G. A. May, Thad A. Minnassian.

Oral Surgery—Dr. C. W. Harned.

Obstetrics—Drs. L. E. Kelley, C. H. Carryer.

Medical Services—(General Medicine)—Drs. Walter L. Bierring, D. J. Glomset, G. A. Huntoon, Meredith Mallory, R. L. Parker, E. R. Posner, E. B. Winnett, H. Dilley, A. J. Booker.

Tuberculosis—Dr. John H. Peck.

Nervous Diseases—Dr. F. A. Ely.

Gastro-Intestinal Diseases—F. T. Strawn.

Children's Diseases—Drs. M. L. Turner, L. F. Hill.

Skin Diseases—Dr. J. F. Auner.

Pathology—Dr. Julius Weingart.

X-Ray—Dr. Thomas A. Burcham.

Anesthetics—Dr. John Russell.

Bureau of Venereal Diseases—Dr. W. S. Conkling.

Miss N. Blanche Culbertson of Longmont, Colorado, has been secured by the hospital board to take the position of superintendent of Mahaska Hospital, succeeding Miss Eva Milburn, resigned, and Miss June Norris of Fairfield has been elected assistant superintendent, succeeding Miss Effie Steigleman, resigned.

Miss Helen F. Donley, R. N., was installed as superintendent of the Atlantic Hospital, the Misses Ely and Murphy having handed in their resignations and severed their connections with the institution. Miss Donley is a graduate of the Massachusetts General Hospital Nurses Training School. She also served in the Red Cross during the war and spent eighteen months overseas.

The Eleanor Moore County Hospital, Boone, will have two mills to pay its expenses during the coming year. At a recent meeting of the board of trustees of the hospital this was certified to the board of supervisors as the levy for the coming year. Last year the hospital had but one mill but at the last session of the legislature the law was changed to permit another mill to be levied for this purpose. It is estimated that the two mill levy will bring in around \$24,000.

A complimentary dinner was given to the active and consulting staffs of the St. Francis Hospital, Waterloo, by the sisters in charge. After dinner, current medical subjects were discussed. Fathers Honoratus and Maurus addressed the audience.

Dr. Wm. Pfannebecker of Sigourney and Dr. C. L. Heald of Cedar Rapids have purchased the Merchants Hotel at Sigourney which they purpose to convert into a private hospital.

PERSONAL MENTION

It will interest many of the friends of Dr. Henry Albert of Iowa City to know that he is now in California where he is taking treatment for tuberculosis of the throat. Although in perfect health in every other respect he has been gradually losing his voice and went to California with the hope of remedying that matter, securing a leave of absence from his post as state bacteriologist at the university.

Dr. C. J. Barborka and wife are visiting at the J. V. Barborka home for three weeks. After graduation from Simpson College he finished the course of medicine at Rush Medical College in 1919 and since graduation has been interning with Dr. Frank Billings at Chicago, Illinois. On October 1st he will go to the Mayo clinic at Rochester, Minnesota, for three years work, where he will specialize as a diagnostician. For the next three weeks he will assist his father in the optical department of the J. V. Barborka Co. store.

Dr. W. R. Whiteis, head of the department of gynecology and obstetrics, and professor therein, has decided not to be active in the university faculty hereafter, and another able physician and surgeon has been elected to his vacated post—Dr. Frederick H. Falls of Chicago. The new appointee has been on the attending staff of the Cook County Hospital, the Chicago Lying-In Hospital, and the University Hospital. He won his B. S. degree in 1908, from the Chicago University; his M. D., in 1910, from Rush Medical College, and his M. S. at the University of Illinois, in 1916. He was a fellow in obstetrics, at the University of Illinois; and a fellow in pathology, in 1913-1918, and 1914-1918, respectively. At Sprague Institute of Research, he was a fellow, from 1919 to 1921. He has taught from 1911 to 1920, in Rush Medical College, the University of Illinois, the Northwestern University Medical School, and the Illinois Training School for Nurses. He was a lieutenant in the U. S. Medical Corps, during the World War. He is an honored member of the Chicago Pathological Society, the Chicago Medical Society, the American Medical Association, the Chicago Institute of Medicine, and the Sprague Institute of Research. All in all, Iowa University has secured a man of rare worth to succeed the popular outgoing savant.

Lieut.-Col. David S. Fairchild, Jr., Medical Corps, stationed at Washington, D. C., one of Clinton's well known men, has been ordered to the Panama Canal Zone for duty on the staff of the Panama canal division. Dr. Fairchild, as he will always be remembered in Clinton, served on the Mexican border in 1916 and during the World War was appointed sanitary inspector in France and later was appointed Division Surgeon of the Forty-second Division with the Army of Occupation in France and Germany.

After a short visit in Clinton following his discharge he left for Washington, where he was a member of the chief surgeon staff with a special duty of writing war medical history. Colonel Fairchild has been affiliated with the Iowa National Guards for the past twenty years.—Clinton Advertiser.

Dr. W. W. Weber, formerly of Iron Mountain, Minnesota, has taken up a general medical practice at Pomeroy. Dr. Weber has been interested in the Shaw Hospital at Iron Mountain for several years, with the exception of the time he devoted to the service during the war. He was commander of the American Legion post at his former home.

I received a call to a case of acute appendicitis at 12:30 p. m., September 6. After a brief conference, a decision was arrived at whereby a plane was sent for the patient. The distance from Colfax to the patient was sixty miles. The train service was such that they could not have started for Colfax until 3 p. m. One transfer would have to be made and arrive here at 7:15. By plane, he was landed within a block of the paved street in 2:21, and was in the hospital a few moments later. He arrived clad in pajamas, bath-robe and aviator's cap. Said the taking-off and landing did not cause him any pain. He manifested a temperature of 103.4 on entering the hospital. Leucocytic count 22,600. I operated him the 12th, removing an appendix yet intact but presenting marked pathology. This seems to be the only airplane ambulance in civil life. Airplane people assure us that it would require little re-designing to construct a plane to accommodate a stretcher and patient. Looks as though the idea should be encouraged.

C. M. Porter, M.D.

Dr. F. J. McAllister of Hawarden, on account of ill health, has been obliged to give up practice in Iowa, and with his family has gone to Los Angeles, California. Dr. McAllister has secured a high place in the esteem of the profession of Iowa and will be missed in his place in medical gatherings.

Dr. M. W. Flothow of Woodbine has disposed of his practice to Dr. S. M. Clark of Mount Vernon, Missouri. After a course in surgery in Chicago will locate in Omaha.

Drs. Svebakenn and Rominger have associated with them Dr. Roy R. Jeffries of Hopkinton. Dr. Jeffries is a graduate of the Iowa State University and from the St. Louis University School of Medicine.

Dr. Wayne L. Stillman, purchased the medical practice and hospital of Dr. Crane a few weeks ago, and later entered into a partnership with Dr. G. H. Hartley and Dr. E. S. Millice of Battle Creek and Dr. A. Groman and Dr. James McAllister of Odebolt, in the formation of the new Odebolt Clinic and Hospital.

Dr. T. F. Duhigg reported the theft of his Packard touring car from Sixth avenue and Locust streets, Des Moines.

Dr. Mary K. Heard, Iowa City, has removed to Des Moines and will continue her practice in the eye, ear, nose and throat work. Dr. Heard is located at 318 Krafts building.

OBITUARY

Dr. D. H. Bowen of Waukon died August 27, 1921, after several months' illness.

Dr. Daniel Hampton Bowen was born on a farm in Decatur township, Green county, Wisconsin, September 6, 1850. After completing his course in the public school, entered the office of Dr. Russell Broughton of Brodhead, Wisconsin, and graduated from Rush Medical School in 1876. Soon after graduating, he located at Rossville, Allamakee county, Iowa, and in 1880 removed to Waukon where he entered into a partnership with Dr. J. B. Mattoon.

Dr. Bowen was not only a successful physician, but also a man of affairs and occupied many positions of trust and responsibility. He was an active member of the Allamakee County Medical Society of which he served as president. Also an active member of the Iowa State Medical Society. When the board of trustees was finally formed as the custodian of the society funds, Dr. Bowen was made a member and continued to serve in this capacity until the condition of his health and the long and difficult journey to Des Moines to attend the quarterly meetings rendered it necessary for him to decline further election. Dr. Bowen's fine sense of the needs of the organized profession rendered him a very useful member of the committee that directs the activities of the society. He was also a Fellow of the American Medical Association.

Dr. Bowen lived and practiced medicine in Waukon for more than forty years and was one of its most esteemed citizens. He had served as mayor and as a member of the school board. In the fall of 1895, he was elected a member of the Twenty-sixth General Assembly and served through the special session, called for the purpose of revising the code. He was again elected a member of the Twenty-seventh and Twenty-eighth General Assembly, and at this last session was made speaker. He rendered useful and valuable service to the state in his legislative capacity.

On February 25, 1877, he married Miss Hettie Burns of Albany, Wisconsin. Three children were born; the first died in infancy. His son Albert Sidney Bowen, a graduate of Northwestern University is a major in the regular army stationed at Camp Lewis, Washington, and his daughter, Mary Bowen, a graduate from the Iowa State University is a teacher in the public schools at Indianapolis, Indiana.

Douglas S. Tiffany of Waterloo, graduate Chicago Homeopathic Medical College, died May 27, 1921, from heart disease, aged sixty.

Dr. W. P. Penfield, ninety-three, for forty years a practicing physician of Conrad, died at 10:20, September 12 of complications and old age at the home of his daughter, Mrs. A. L. Fields, 211 West Main street. A year ago Dr. Penfield suffered a slight stroke of paralysis and September 11, 1920 fell and suffered a fracture of the hip which left him helpless.

Dr. William P. Penfield was born at Camden, N. Y., June 7, 1828. He was united in marriage there with Miss Amelia J. Dawley, April 2, 1850. To this union three children were born, two of whom died in infancy. During the Civil War Dr. Penfield served as assistant surgeon of the 156th Infantry.

Dr. and Mrs. Penfield moved to Illinois in 1854 and in 1868 came to Iowa and settled at Conrad. Fifteen years ago Mrs. Penfield died at Conrad and three years ago Dr. Penfield came here to make his home with his daughter.

Dr. Sherman M. Kline, died at City Hospital, Carroll, September 22, 1921, was born at Wauseon, Ohio, November 19, 1874. He was educated in the public schools of that locality, and, upon deciding to study medicine he went to Baltimore, Maryland, where he completed his course. He came to Scranton in 1901, and, for twenty years, has been one of the leading physicians of the "west side," and has enjoyed a large practice. He was wedded December 16, 1903 to Miss Ethel A. Worsely.

MARRIAGES

Dr. Merle French of Iowa City, and Miss Irene Batcher were married September 8, 1921. Dr. and Mrs. French will reside in Iowa City. Dr. French is assistant state epidemiologist.

Dr. F. R. Peterson of University Hospital and Miss Coral A. Johnson of Laurens were married at Laurens September 7, 1921. Dr. Peterson is an assistant in the department of pathology at Iowa City.

Dr. Nelson Reuber of Klemme and Miss Gladys Weigman of Garner were married September 15, 1921. Dr. Reuber is a graduate of the Chicago University School of Medicine.

BOOK REVIEWS

OPERATIVE SURGERY FOR STUDENTS AND PRACTITIONERS

By John J. McGrath, M.D., F.A.C.S., Professor of Surgery, Fordham University; Consulting Surgeon to the People's Hospital, Visiting Surgeon to the Fordham, Columbus and New York Foundling Hospitals, Etc. Sixth Revised Edition with 369 Illustrations, Including Full-page Color and Half-tone. F. A. Davis Company, Philadelphia, 1921. Price \$8.00 Net.

This well known work has reached the sixth edition; a reasonable guarantee of its merit. In the period since the war the authors of a considerable number of successful works on surgery have felt the need of revised editions to bring them to date. Irrespective of the war, surgery is an extremely progressive science, and progress is too rapid for the exponents of modern surgery to remain long idle and something must be added from time to time.

This does not mean the older editions are valueless but the writers have a duty to perform in keeping progress alive.

The purpose of this book is to furnish the practitioner and the student of medicine a concise and modern text-book on the approved methods of operative surgery. The book opens with a chapter on anesthesia, hemorrhage and the suture of tissues. Then commencing with the head comes a chapter on the surgical anatomy of the head and the operative procedures upon the head and face, followed by the surgical anatomy of the neck and the tongue and the operations upon the neck which are important and sometimes difficult. The thorax follows. Here again we have an anatomical outline of the surgical regions to be considered.

Part five takes up the surgery of the abdomen and back. To aid the student the walls of the abdomen are outlined in considerable detail whereby the students keeps informed of the underlying internal organs. The anatomical arrangement of the muscles of the back is so presented as to suggest an explanation for the many back symptoms that come to the notice of the physician. The usual operations upon the abdomen are considered in a helpful way for the general surgeon, and as a preparation for the student who, if not to be an abdominal surgeon, needs a certain amount of training in the surgery of the abdomen. In like manner the surgical anatomy of the various surgical regions are taken up, followed by a discussion of the operative procedures that may be required. Altogether McGrath's Operative Surgery is an important addition to a surgeon's library and one that should be more frequently consulted or better, should be a constant companion to the modern practitioner of medicine.

RATIONAL TREATMENT OF PULMONARY TUBERCULOSIS

By Charles Sabourin, M.D., Medical Director of the Durtol Sanatorium, Puy-de-Dome, France. Authorized English Translation from the Sixth Revised and Enlarged French Edition. F. A. Davis Company, Philadelphia, 1921. Price \$3.50 Net.

We are informed by the writer of this book that probably not less than 150,000 persons die in France annually from tuberculosis, and proceeds in a most interesting manner to consider the questions involved as to causes and conditions which develop the disease. It is a book that can be read with great profit by all educated persons. It is not a formal medical book, but a medical book written in a familiar style and arranged in such a manner as to carry the reader from one important fact to another, to secure the patient or prospective patient the best results in the direction of recovery.

An important chapter is devoted to the need of early diagnosis. Much is being written on tuberculosis and constant emphasis is placed on early diagnosis, but there is much evidence to show that a

large body of physicians are careless in their examinations and pass over many cases that should receive early attention. Among drugs in the treatment of tuberculosis, the author places first arsenic and cod-liver oil, but the chief reliance is placed on rational measures that will improve nutrition and increase the powers of resistance. The reader will find a detailed account of the methods to be employed.

THE PRINCIPLES OF IMMUNOLOGY

H. T. Karsner and E. E. Ecker. J. B. Lippincott Co., Philadelphia.

This book though designed primarily for students should be useful to practitioners who are interested in the various phases of immunity. The authors are clear, concise and not too academic in their presentation of their subject. We regret that exact references are not included in the text.

After the usual introduction, the virulence of organisms, body resistance and the general phenomena of immunity are discussed. In the chapter on toxins and antitoxins, such practical questions as the preparation and administration of diphtheria and tetanus antitoxin are briefly presented. The chapter on the application of complement fixation to the diagnosis of disease includes a very careful description of the Wassermann reaction both as to its technique and the interpretation of its results. Hypersusceptibility and vaccine therapy are discussed at length in the closing chapters of the book.

We can heartily recommend this book to all medical men who wish to keep abreast of the accepted advances in this particular field of scientific medicine.

C. P. Howard.

THE WASSERMANN TEST

By Charles F. Craig, M.D., M.A., F.A.C.S., Lieut.-Col., M.C., U. S. A., Etc. Second Edition. Published by C. V. Mosby Co., St. Louis, Missouri. Price \$4.25.

The value to be placed by physicians upon the results of the Wassermann test has been the subject of discussion ever since its first introduction about 1906, due partially to the personal equation of those working on the problem, and further to the many factors influencing the results. Craig believes that much of the successful application of the test and the correct interpretation of the findings, depends upon the rigid adherence to the technic not only in the actual test, but also in the preparation of the reagents, as developed by his work and that of his associates in the army laboratories. Certainly, nowhere could opportunity have been found for more favorable working out of all the details, than in the wealth of material at the disposal of these workers.

Craig regrets the necessity for the use of the name Wassermann test, because now applied, it has been so greatly modified, preferring the term, complement fixation test.

In this second edition is included, at the request of Dr. A. J. Pacini, chief of the laboratory section of the

U. S. Public Health Service, the modification adopted by the hygienic laboratory, both methods being authorized for use in the hospitals of that service.

Craig emphasizes "the misunderstanding and confusion among members of the medical profession regarding the exact nature and limitations of the Wassermann test" and hopes to aid in clarifying this confusion.

The book is well gotten out and is a credit to both the author and the publisher.

Major H. R. Reynolds,
U. S. Public Health Service.

A TEXT-BOOK OF PATHOLOGY.

By Alfred Stengel, M.D., Sc.D., Professor of Medicine, University of Pennsylvania, and Herbert Fox, M.D., Director of the Pepper Laboratory of Clinical Medicine University of Pennsylvania, Seventh Edition, Reset, Octavo of 1,111 Pages with 509 Text Illustrations, Many in Colors. W. B. Saunders Company, 1921. Cloth, \$8.50 Net.

In the preface we are informed that the general plan of previous editions has been followed, but so much new matter has been presented due to the rapid increase in pathologic knowledge that a resetting has been necessary and some new sections added; particularly in relation to nephritis, influenza and lymphomata.

This being the seventh edition establishes sufficient evidence to show the estimation in which the work of Drs. Stengel and Fox is held.

The position occupied by pathology in the practice of medicine and surgery leaves no ground for an argument as to the value of the work. We cannot recommend this book in too high terms as representing modern ideas in pathology.

TREATISE ON FRACTURES IN GENERAL, INDUSTRIAL AND MILITARY PRACTICE

By John B. Roberts, A.M., M.D., F.A.C.S.

Emeritus Professor of Surgery in University of Pennsylvania, Graduate School of Medicine; President of the American Surgical Association, Member of the International Society of Surgery, and James A. Kelley, A.M., M.D., Associate Professor of Surgery, in University of Pennsylvania, Graduate School of Medicine, Attending Surgeon to St. Joseph's, St. Mary's, St. Timothy's and Misericordia Hospital. Second Edition Revised and Entirely Reset, with 1081 Illustrations: Radiograms, Drawings and Photographs. J. B. Lippincott Company, Philadelphia, 1921.

The importance of a clear understanding of all that relates to fractures is so great that the medical profession should welcome this book. The vast experience of the authors, and the understanding they have of the needs of the profession, and of the public also, places this work in the front ranks of actual professional necessity.

In this review we can only point out a few of the facts that render books of this character of the first importance in civil, industrial and military practice. In industrial surgical practice the relation of accurate diagnosis, time of disability, and results, have an important economic relationship, and tend largely to the success or failure of the surgeon. In civil practice, the same facts hold with the additional dangers of expensive malpractice claims.

The first chapter relates to general considerations in fractures which should be thoughtfully studied as a preliminary to the consideration of individual fractures. Then comes general considerations in the treatment of fractures, including infected fractures, the operative treatment of closed fractures, and incomplete and mal-union of fractures.

The authors are conservative in employing operative treatment in closed fractures but there are certain cases in which satisfactory results cannot be obtained without operation, such cases must rest upon the judgment of the surgeon; the aim of the book is to aid in reaching a sound conclusion, and to point out the methods of procedure and the dangers, if the most skillful care is not observed; one important observation is made, and that relates to environment, too many operations of this kind are made in poorly equipped hospitals. The illustrations in this section are extremely important and helpful even to well trained surgeons.

Commencing with chapter seven is a detailed consideration of individual fractures beginning with fractures of the skull. Important anatomical considerations are presented with many illustrations which show the various lines that fractures may take, the means of diagnosis, and many important facts in relation to prognosis and treatment.

About fifty pages are devoted to this subject which is presented in a most admirable manner. Fracture of the bones of the face and vertebra follow.

A series of fractures involving the sternum, ribs and the costal cartilages are presented; fractures which are often overlooked and badly treated. Admirable plates are presented which show the factors that tend to displacements of fragments and the means which may be employed to prevent deformity.

Fractures of the upper extremities are exhaustively considered. Here it is that skillful surgery finds its place, and here it is, that errors of diagnosis, and errors of treatment brings great misfortune to patients and expensive damage suits to the surgeon. It seems quite impossible that the surgeons who follows the teachings contained in this book can fall into serious error provided the patient is under the full control of the surgeon. Even if the practitioner finds it difficult to follow the text, the illustrations will save him.

What we have said of the upper extremities applies equally to the pelvis and lower extremities. Too much care cannot be given to fractures about the ankle, particularly to the malleolar processes.

(Continued on Adv. Page xviii)

The Journal of the Iowa State Medical Society

VOL. XI

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No. 12

AN ANALYSIS OF THE FIRST ONE HUNDRED ADMISSIONS TO THE IOWA STATE PSYCHOPATHIC HOSPITAL*

LAWSON G. LOWREY, A.M., M.D., Iowa City

Assistant Director: Associate Professor of Psychiatry, State University of Iowa

The law establishing the State Psychopathic Hospital was enacted in 1919 (Chapter 235, acts of the Thirty-eighth General Assembly: this has been issued in pamphlet form and may be obtained from the State Board of Education). It provides for the establishment of such a hospital, "especially designed, kept and administered for the care, observation and treatment of those persons who are afflicted with abnormal mental conditions." The hospital is put under the management of the State Board of Education; to be located at Iowa City "and connected with the College of Medicine" of the State University. The board appoints the medical director, "who shall serve as professor of psychiatry in the College of Medicine." The director, in addition to having charge of the hospital, "shall seek to bring about systematic cooperation between the several state hospitals for insane and the said State Psychopathic Hospital." Provision is made for him to visit and advise the hospitals on request.

The law carries the first provision made in the state for admission of voluntary patients to a state hospital for mental diseases. It provides that they may come voluntarily either as public or private cases. Patients may also be committed by judges of the district or superior courts as "suffering from an abnormal mental condition which can probably be remedied by observation, treatment and hospital care," the expense to be borne by the family or the county as the court may decide. It will be noted that this form of commitment does not carry with it the idea of adjudging the person "insane," which many people do not like, preferring to think that the patient is sick, as indeed he is.

We have then four legal classes of patients: viz., voluntary private, voluntary public, committed private and committed public. Of these, the first type needs no legal papers of any sort; the second an order of the judge that support be paid from public funds; the third an order of commitment by the judge; the fourth an order of commitment and an order for public support.

Ample power is given the director to insure that the hospital may select its cases and transfer to the district state hospitals cases not regarded as suitable for the psychopathic, or cases which prove to be chronic or incurable. The original provisions were somewhat modified at the last General Assembly, but the same ends are subserved.

A total appropriation of \$272,000 was granted by the Thirty-eighth and Thirty-ninth General Assemblies for the building and equipment. The plans for the building, which is expected to be ready for occupancy in January, were drawn by the director, Dr. S. T. Orton. It will contain sixty beds with ample day space, and so arranged that a classification of patients may easily be made with respect to their therapeutic needs. There is an ample and well arranged out-patient department; offices and needed rooms for the medical and social services; laboratories for chemistry, serology, pathology, psychology and experimental work; library, class room and teaching laboratory. It is in my opinion the best plant in this country for its particular work.

The first psychopathic hospital in this country was established at the University of Michigan in 1906. The Boston Psychopathic was opened as a department of the Boston State Hospital in 1912. The Henry Phipps Psychiatric Clinic was opened in Baltimore in 1913. The New York Psychiatric Institute was reorganized in connection with the Manhattan State Hospital in 1902, but certain differences of organization and function render it not quite comparable to the others. Then there are several detention hospitals, some of which are called psychopathic hospitals, but the character of their work is considerably different from that of the others named.

*Read by invitation before the Iowa and Illinois Central District Medical Association, Davenport, Iowa, August 25, 1921.

The Psychopathic Hospital in Boston, with which I am most familiar, had four principal objects:

1. The first care and observation of cases suspected of having mental trouble: i. e., diagnosis.

2. The treatment of acute and curable conditions, and recommendations for further care and treatment of other cases.

3. Research into the nature, causes, and treatment of mental disease.

4. Teaching of physicians, medical students, social workers, psychologists, nurses, and others having to do with the problems of mental diseases.

Serving a large metropolitan district, with an annual admission rate of 2000, and about 1500 new cases per year in its out-patient department, it rapidly developed into chiefly a diagnostic station, with less emphasis on treatment. The teaching and research functions were well carried out in view of this limitation. This "sorting" function has been less in evidence at Michigan, as it is apt to be here. This is explainable, at least to a considerable degree, by the difference in the distribution of population.

These are, however, the four important functions of the psychopathic hospital. It is not, and can not be, if it is to succeed, a custodial institution. Every case must be regarded as a possible research case; every record must be compiled with the idea that it is to be a part of some research; every test or procedure, whether diagnostic or therapeutic, must be viewed in the double light of possible research value and its value to the individual patient. All of the resources of medicine, of psychology, of science in general must be brought to bear on the problems of the individual patient and on the problems of the mental diseases at large.

It is to be remembered that in dealing with mental disease or defect we are dealing with the entire individual. We can not consider one organ or function to the exclusion of another. We must always analyze the whole man and his setting, which means an attack upon his problems from all possible points of view. We are building up an organization for just this sort of work, a research and teaching station, but in addition a place for the scientific and humane attempt to rehabilitate the sufferer from mental disease.

GENERAL STATISTICS OF 100 CASES

On July 12, 1920, the first patient was admitted to our "temporary quarters," designed to be a diagnostic and advice service, with space to accommodate eight patients. We soon had fourteen patients and a long waiting list, and have ever since been put to it to meet the demand. All of

the figures here given refer to the first hundred patients actually admitted to the hospital, and has no reference to cases seen in the out-patient or in consultation.

Fifty-one men and forty-nine women, of ages varying from eight to seventy-one years comprise the group. Of these, sixty-six came voluntarily and thirty-four were committed. This to me is striking evidence of the value of a law for the admission of voluntary patients to hospitals for mental diseases. The necessity for such provision has been recognized in twenty-nine states. In six of these states, the request for voluntary admission must be accompanied by the certificate of a physician. Massachusetts has had such a law since about 1880 although at first only people who were able to pay could be accepted, as the counties and towns refused to pay unless patients were committed. Following complete state control of the institutions, adopted in 1904, the law was amended, and now any one may be accepted as a voluntary patient, either as a public or reimbursing patient. In 1919 nearly 20 per cent of the admissions to the Boston Psychopathic Hospital were voluntary cases.

The hospital charges tentatively fixed by the board are \$4 per day for both public and private cases, with no extra charges of any sort. While the charge is materially higher than the cost of maintenance in district state hospitals, it is probably nearer to the cost of their reception and acute services than is generally realized. Of this group of cases, forty-seven were publicly and fifty-three privately supported. Of our female patients, 59 per cent (twenty-nine) were privately supported, while among the males 47 per cent (twenty-four) were so supported. Correlated with this is the fact that 77 per cent of the females and 55 per cent of the males were voluntary cases. That is, the men are the earners and it is more frequently necessary to ask for public support.

MEDICAL STATISTICS

It is difficult to arrive at any accurate estimate of the duration of illness before admission. Some eight or ten cases were admitted within a short time of the onset. The balance had been ill months or years before admission. Fully half the cases had been the round of physician, Christian scientist, osteopath and chiropractor. Some claimed benefit from one, some from another. Some twenty had been in other hospitals or sanatoria. Sixty-six per cent were referred to us by physicians; 11 per cent were sent us by courts wishing to obtain our advice in dealing with some particular situation that had arisen; 5 per cent were referred to us by social agencies interested

in the case from some angle; the remaining 18 per cent came on the initiative of the family or the patient.

It is perhaps unnecessary here to advert to the necessity for early treatment. From the standpoint of results, the earlier the better. Indeed if we must err at all, it seems to me far better to err by calling the case mental when it is physical than to err by calling it physical when it is really mental. I understand the general objection to calling mental cases mental, and the general usage of such terms as nervousness, nervous breakdown, neuritis and other vague terms which mean nothing or a great deal, but it does seem that we need to face more squarely the problems of mental disease, and particularly the need for early treatment. Now that mental cases may be hospitalized on practically the same terms as cases of physical disease, there would seem to be little excuse for any great delay in starting treatment.

In Table I will be found a summary of the diagnoses in the hundred cases, giving the condition of the patient at time of discharge. In general it may be said that the patients did not remain long enough for adequate treatment, as the facilities at our command would not permit. The results at Michigan have indicated the desirability of a period of treatment which averages three months, and this we have not been able to give. Five of the cases were under treatment three months or longer, while fifty-three were in the hospital less than a month.

CLINICAL GROUPS

The ordering of the material in Table I is based upon Southard's diagnostic key, as modified by Menninger and by myself. It will be noticed that in some groups, notably 1, 4, 5, 6, and 7, the delimitation is based upon etiology. The other groups, which are accepted groups in the psychiatric nosology of the day, have been erected on a basis of clinical description and outcome. For them, in general, our ideas of causes are very vague. Hence, whenever a case in this series presents definite etiological factors, it is placed with its etiological rather than descriptive group (vide neurosyphilitic epilepsy and feeble-mindedness).

There is presumably only one logical way to group the mental diseases, and that is on a basis of etiology, but as yet our knowledge of etiology in mental cases is not equal to the task (Orton). Descriptive interpretative terms such as "mental disease," "excitement," "depression," "dementia," "feeble-mindedness," "epilepsy," etc., are only the starting points for a true diagnosis, and are on about the same level as "edema of the feet," or "fever" or "arrhythmia," etc., in general medicine.

In mental cases we do not have a presenting symptom, as is so frequently true in general medicine. Instead, we are presented with complexes of symptoms, or "clinical states." Having determined what this clinical state may be, we proceed to a differential diagnosis. Practically any outstanding mental symptom may occur in any of our various groups, which does not increase the ease of diagnosis.

But it still remains true that our separation of cases into groups is well founded, and that these diagnoses, even in the absence of adequate etiological ideas, have a definite meaning and usually carry a definite prognosis.

The best method of discussion of the medical aspects of the cases is according to the grouping adopted.

Group I. Neurosyphilis—We have included here all cases shown to have syphilis of the nervous system. It happens that these are all the cases known to have had syphilis, and all that gave a positive Wassermann test. Experience in Eastern hospitals shows that about 16 per cent of admissions have a positive Wassermann test, and about 10 per cent have neurosyphilis. Perhaps the low percentage here found is only a matter of chance, the number of cases being small, or perhaps it means only a small amount of syphilis in the state.

Three of the cases were treated intensively with intravenous arsphenamine according to the method developed in the syphilis clinic of the Boston Psychopathic Hospital. One of the cases developed a severe dermatitis and jaundice, so that treatment had to be discontinued. The patient never showed any improvement, and eventually died. The autopsy revealed no gross lesions indicating arsenical poisoning, but there is much intracellular fat in evidence microscopically. Another case of paresis remained in a stationary condition of deterioration with marked organic signs during the six months he was under treatment.

The third case is one of the rare types of paranoid neurosyphilis, recovering from the immediate psychosis under treatment, and still well after the lapse of a year.

A woman of forty-four was admitted on August 25, 1920, because of auditory and visual hallucinations, delusions of persecution, suicidal threats, threats against her sister, and the secretion of a butcher knife in her room. She had been regarded as entirely normal until two years before, when the hallucinations and delusions began following some trouble with her husband. Symptoms of syphilis and treatment for that disease about fifteen years ago, and intermittent treatment since. During this sum-

TABLE I

		Male	Female	Total	Discharged				Committed to S. H.
					Rec.	Imp.	Unimp.	Died	
I.	Neurosyphilis ..	3	3	6	0	1	4	1	2
	General paresis ..	2	1	3	..	..	..	..	..
	Feeble-minded ..	1	0	1	..	..	..	..	..
	Epilepsy ..	0	1	1	..	..	..	..	..
	Paranoid ..	0	1	1	..	..	..	..	..
II.	Feeble-minded ..	8	2	10	..	..	10	..	1‡
III.	Epilepsies ..	6	1	7	..	3§	4	..	..
	Glandular ..	0	1	1	..	..	..	..	..
	Idiopathic ..	6	0	6	..	..	..	..	..
IV.	Alcohol and Drugs.....	0	0	0	..	..	..	..	..
V.	Somatic Psychoses (Cardiac).....	1	0	1	1*	..	..	..	..
VI.	Encephalopsychoses ..	2	1	3	1*	..	1	1	1
	Traumatic ..	1	0	1	..	..	..	..	..
	Arteriosclerotic ..	1	0	1	..	..	..	..	..
	Hemorrhage, cause unknown	0	1	1	..	..	..	..	..
VII.	Geropsychoses ..	2	2	4	..	..	4	..	..
	Senile Dementia ..	2	0	2	..	..	..	..	..
	Presbyophrenia ..	0	2	2	..	..	..	..	..
VIII.	Dementia Praecox.....	16	6	22	2*	4	15	1	8
	Simple ..	1	0	1	..	..	..	..	..
	Hebephrenic ..	7	3	10	..	..	..	..	..
	Catatonic ..	1	2	3	..	..	..	..	..
	Paranoid ..	7	1	8	..	..	..	..	..
IX.	Manic-depressive ..	4	13	17	..	5	12	..	10
	Manic ..	0	2	2	..	..	..	..	..
	Depressed ..	4	9	13	..	..	..	..	..
	Mixed ..	0	2	2	..	..	..	..	..
X.	Paranoid Psychoses.....	0	4	4	..	..	4	..	2
XI.	Psychoneuroses ..	4	7	11	2	4	5	..	..
	Anxiety ..	0	3	3	..	..	..	..	..
	Hysteria ..	1	2	3	..	..	..	..	..
	Psychasthenia ..	2	2	4	..	..	..	..	..
	Neurasthenia ..	1	0	1	..	..	..	..	..
XII.	Psychopathoses ..	2	3	5	..	..	..	..	..
	With Psychosis ..	..	2	2	2*	..	..	..	..
	Without Psychosis ..	2	1	3	..	..	3	..	..
XIII.	Undiagnosed Psychosis.....	2	5	7	1	2	4	..	2
XIV.	Miscellaneous ..	1	2	3	..	..	3	..	..
	Not Insane—Pul. Tb.....	1	0	1	..	..	..	..	..
	No Diagnosis ..	0	2	2	..	..	..	..	..
Totals ..		51	49	100	9	19	69	3	25

‡. This feebleminded boy was committed to a State Hospital by an Insane Commission.
§. Two of these cases recovered from an acute psychotic episode but are still epileptic.
*. Recovery from the acute psychotic episodes but the underlying disease process still present.

mer has had six injections of neo-diarsenol, five or six injections of salicylate of mercury, and some iodides. Wassermann has become negative. Has never had a lumbar puncture.

On examination shows: memory defect, auditory and visual hallucinations, delusions of persecution, occasional outbursts of excitement. The physical examination was not remarkable except for a laryngeal huskiness and Argyll-Robertson pupils.

There was albuminuria and hyaline casts. Wassermann on blood and spinal fluid negative August 31. Spinal fluid showed increased albumen and globulin and four cells. On September 17, spinal fluid Wassermann negative; seventy-seven cells, albumen and globulin increased, and mastiche shows slight change in the first three tubes. She received eight injections of arsphenamine, totaling 2.3 gm. between September 6 and 27. On the latter date she was discharged to her home, with almost complete remission of her mental symptoms. Arrangements were made for her to continue treatment as an out-patient. Her mental symptoms soon disappeared entirely, and she ceased to visit the clinic. From all reports she has continued to do well.

The feeble-minded boy and the epileptic girl were brother and sister and victims of congenital neurosyphilis.

The mother died in a district State Hospital, where a diagnosis of neurosyphilis was made. Two years before her death her vision began to fail, and a diagnosis of glaucoma was made. For some weeks before death she was totally deaf in addition to her blindness. In the family, the oldest son was reported as normal until at one and one-half years he had a paralytic stroke and is now at Glenwood. The second son was the patient we saw, a feeble-minded lad of twelve with organic signs of neurosyphilis. The girl is ten, epileptic and feeble-minded. The next boy is eight and is said to be normal and healthy in every way, (which I am inclined to doubt.) The last labor, seven years ago, resulted in a still born child.

No opportunity was afforded in these two cases to determine the results of treatment.

These cases deserve emphasis because all too frequently we are satisfied with determining that a person is feeble minded or epileptic, and fail to search in the background for any possible factors which may be remedied. We can not be very optimistic as to the results of treatment in any individual case of congenital neurosyphilis, since frequently the symptoms are due to destruction and the causal organisms are no longer active. But we should always look for such causes and treat them when we find them. Only in that way can we be sure that we have not failed to help a case which might be helped.

Also deserving of emphasis is the fact that the diagnosis "neurosyphilis" is best made by laboratory tests. Such tests will not tell us whether

the case is parietic or tabetic, or even without symptoms, but they are far more accurate in determining the presence or absence of neurosyphilis than are any clinical tests whatsoever. For any who doubt this asseveration, there is an ample literature on the subject (Barrett, Southard and Solomon, Lowrey). Since lumbar puncture is so safe and easy a procedure, and since the examination of the spinal fluid is so accurate and valuable as an aid to diagnosis, it seems imperative to perform it in any case showing the slightest indication of the possible presence of syphilis of the nervous system. Indeed I am one of those who believe that no diagnosis of an organic nervous case is ever complete without an examination of the spinal fluid. I might quote many cases in support of this contention regarding examination of the spinal fluid, but two cases recently seen will serve to fix the point.

A man of twenty-six was seen while visiting a friend who was called in consultation. The patient had begun vomiting persistently about three weeks after a minor head trauma and had been vomiting for about three weeks. Within three days he had gone into a muttering delirium, from which he could be roused to make a few incoherent responses. At the time we saw him he was semi-comatose, hallucinated, confused. Temperature 101°. Mouth dry. Chest and abdomen negative. Neck stiff, photophobia, positive Kernig: active knee jerks: pupils react to light. Ophthalmoscopic examination negative.

We are obviously dealing here with a case of meningitis. Leaving aside for the moment any other considerations, the first thing to be done is a lumbar puncture. If a cloudy fluid is obtained, we immediately give anti-meningococcus serum. If the fluid is clear, the chances are that in a man of twenty-six we are dealing with syphilis, and we should immediately give some antisiphilitic treatment. Chronic meningitis, with clear fluid, is nearly always due to syphilis or tuberculosis, and in some instances to a superficial tumor. In this particular case, the spinal fluid contained 400 cells (90 per cent lymphocytes) per cu.m.m., there was increased protein, a positive Wassermann and a syphilitic gold curve. Two intravenous injections of arsphenamine sufficed to clear up all acute symptoms, and a week later the patient was entirely clear mentally and had no neurological signs of a meningitis.

The second case is that of a man of forty-two recently admitted to the hospital. For four years he has been showing signs of optic atrophy. On admission he was totally blind and presented an advanced tabes as well as signs of parietic involvement. The spinal fluid gives typical and strongly marked signs of neurosyphilis. Although he had been seen

by a number of physicians we are not able to learn that any one ever made a diagnosis of neurosyphilis or treated the patient on that basis.

The diagnosis could have been made as soon as the symptoms appeared if the spinal fluid had been examined.

In either of these cases, the diagnosis was easy to make if one bore in mind the possibility of syphilis, and realized that lumbar puncture findings constituted exact criteria. They are proper parts of diagnosis, prognosis, and often serve as a valuable index of the progress of treatment.

A final word with respect to the treatment of paresis. The differentiation of paresis from other types of neurosyphilis is not always easy. For that reason it is often wise to treat. We have found that the expansive, excited types, if taken early respond better to treatment (just as they are more apt to have remissions) than do the depressed cases, or those in which the early signs are signs of deterioration.

Group II. Feeble-minded—Any diagnosis of feeble-mindedness properly includes an estimate of the degree of defect (idiot, imbecile, moron) and whatever we know as to the cause (syphilis, organic brain diseases of various sorts—traumatic, infectious or malformative glandular disorders, hereditary types). It is only fair to say that in many cases we cannot be at all sure of the cause, and here we feel it is best to state the cause as unknown. So it is with the majority of the cases here presented. In two cases we are sure of an hereditary background. In two more we have a history of early disease affecting the brain. The balance are of unknown causation.

In certain of these types, results may be expected from medical treatment. In general, however, the treatment of feeble-mindedness is educational—that is the training and disciplining of the individual to the limit of the capacity to assimilate. One of these cases was committed to a state hospital. One was sent to a reformatory. Two have been sent to the school for the feeble-minded. The balance are at home.

The social difficulties of the feeble-minded would form a large chapter. The commonest of all is, of course, backwardness in development. Often this is not remarked until the child fails to learn at the proper rate in school. Mere dullness or even extreme stupidity does not, however, necessarily bar one from the enjoyment of social life. But when the lack of intelligence and judgment bring the person continually into conflict with society, then the case reaches the physician.

The conduct disorders of these patients were varied—forging checks, stealing, sex offences,

perversions, running away, cruelty (of sadistic type) all appear. In general we have to fear offences against property and the person from the boys, and sex offences from girls.

Group III. Epilepsies—There are many types of epilepsy. Where the symptom convulsions is associated with some other type of disease process, we do not put the case in this group, but tend to reserve this grouping for the idiopathic cases. One case is called glandular and included here, because of uncertainty whether it is glandular epilepsy or epilepsy plus glandular disease. This woman of thirty had no convulsions until a thyroidectomy for Graves' Disease. Along with her convulsions she showed signs of tetany. Following Jelliffe she was given parathyroid one-eighth grain by suppository, with considerable diminution in the number of fits. She had also well developed cataracts in both eyes so that operation was necessary to enable her to see. Discharged to her home, the convulsions recurred and she was sent to a state hospital, from which we have a report that she is doing well on pituitary extract.

The idiopathic cases are not remarkable. Thorough laboratory and x-ray study failed to reveal a cause. All the cases were treated with luminal in addition to diet regulation. It is too early to report on our experiences with this drug, but in general it has been good. This is particularly true in one case where, under the influence of hallucinations and delusions the man cut both wrists, one temple and one ankle in order to kill himself. For nearly a year he has done well with no recurrence of convulsions or psychotic episodes.

Group IV. It is interesting to find no cases of alcoholic disorder, although perhaps not surprising in view of the small number of alcoholic cases received in the state hospitals during many years.

Group V. The Somato-psychoses—The psychoses dependent on bodily disease (ordinarily called the symptomatic psychoses) are of great interest to us. Only one case, a man with attacks of excitement and anxiety associated with a decompensated heart, belongs definitely in this group. He recovered from his psychosis and the immediate decompensation, although, naturally enough, he is liable to further attacks. Two other cases, diagnosed dementia praecox because of the schizophrenic symptoms and the defect in personality when there was recovery from the acute psychosis, had complicating physical disease that might have been regarded as the cause of the trouble. In one there was an unrecognized diphtheria and in the other recent labor with possible uterine toxemia.

The majority of the cases in the somatic group never reach the state hospitals. They are cared for at home or in the general hospital. This is theoretically sound, since the treatment of the mental disease is the removal or amelioration of the physical disease.

Group VI. Encephalopsychoses—Of the cases of psychosis associated with organic brain disease, one, a case with an acute episode of depression, delusions and clouding of consciousness, made a good recovery from the episode. Here the skull was trephined and a small zone of depressed bone removed at the site of a fracture. There was no external depression to be made out, as is not infrequently the case. The x-ray, however, showed the depression of the inner table. The patient continues well, nearly a year after discharge. Incidentally, the x-ray is one of the most valuable adjuncts in the diagnosis of certain types of psychiatric cases.

Another case, a woman of thirty-five, was brought to us on a stretcher on August 28, 1920. In March, 1918, she suddenly collapsed, but made a quick recovery, though she afterwards complained of numbness in the right side. In May, 1918, she had another attack also involving paralysis of the right side. Recovery in a short time. Married in July, 1918, and went for five months to Texas. In December, 1918, she became nervous and restless, and had another stroke, losing the use of her legs and voice and becoming incontinent. Throughout 1919 she continued ill, though she got about to some extent on crutches. In November, 1919, she had two convulsions. She then got worse, and in April, 1920, had a stroke involving the left side. Then came violent jerking movements lasting about ten days. Since then, difficulty in swallowing. For two months or so completely bed-ridden.

The significant findings in the examination indicated a double pyramidal tract lesion, blood-pressure of 220-250 systolic and 130-150 diastolic, and a heart lesion. A history of this sort in a person of her age naturally suggests syphilis as the causative factor. The blood and spinal fluid Wassermann was negative: there was increased protein in the spinal fluid and only one cell. This would indicate that it was not syphilis. On September 11 the patient became distinctly worse, had a convulsion, showed signs of a flaccid paralysis and died on September 12. The autopsy revealed some old hemorrhages in both hemispheres and a recent hemorrhage in one. So far search for spirochaetes has been unsuccessful, and the most probable explanation of her difficulties is to be found in her chronic nephritis. The many extraordinary features of this case may well be reserved for later discussion.

Group VII. Geriopsychoses—The cases of senile psychoses happen to present certain points of interest. One of these cases, in addition to

senile dementia, presented a somewhat unusual symptom in the way of continuous pain in the ophthalmic and maxillary divisions of the right fifth nerve. He had had alcohol injections and peripheral resection without relief. Another alcohol injection was tried and, if anything, increased the pain. This condition, trigeminal "neuritis," as it is often called, is apparently due to a central lesion, and is not to be relieved even by ganglion extirpation (Sicard, Robineau and Paraf, *Rev. Neurologique* xxviii, 1, 1921, p. 82). Indeed such treatment usually aggravates the condition.

Presbyophrenia (characterized by fabrication to fill in the memory gaps) is not a particularly common type of senile psychosis (constituting 6-8 per cent of such cases.) The fabrications resemble the romancing of the inveterate liar, except that the patients are unaware of the inaccuracy of their stories, and are likely to change them rapidly. The prognosis, as of the senile disorders in general, is bad.

Group VIII. Schizophrenoses—Twenty-two per cent of dementia praecox cases represent about the expectation, since approximately one-fourth of the admissions to the state hospitals belong in this general group. Certain points are especially to be noted; two cases made an excellent recovery following an acute attack, after being under treatment for seventy-two and ninety-six days respectively. One has continued at home, doing her own house work and behaving quite normally for nine months and one has been working as a nurse for over six months. One additional case has made a good recovery after six months at a state hospital.

Of course, no statement regarding cases of dementia praecox will pass unchallenged unless the evidence on which the diagnosis is based is presented. For the present, however, suffice it to say that all of these were cases in which the entire staff concurred in the diagnoses, and the results were as given.

Emphasis is laid on these remissions because of a general tendency to regard dementia praecox as a hopeless, progressive, chronic disorder. Kraepelin states, "I myself found real improvement in 26 per cent of my cases, when that of a few months duration was taken into account." He concludes that 12-13 per cent of the cases show a complete recovery "which, however, seldom lasts longer than three to six years." (VIII ed.) Accordingly it is clear that a blanket prognosis of progressive deterioration is decidedly misleading. In general the paranoid cases do not recover and the catatonic have the best prognosis.

Two of our paranoid cases (of the mitis type) did improve sufficiently to resume community life, though still deluded.

With the exception of three cases, all in this group were under thirty. Dementia praecox is essentially a disease of the young; a maiming and not a killing process. It is only occasionally that any other form of mental disease (except the paranoid types) continues for ten or more years. One of our patients was fifty-one years of age, but the disease process had been in existence for more than twenty years. Kraepelin found in 1094 cases that 6.2 per cent begin under the age of fifteen years; 47.2 per cent from fifteen to twenty-five; 35.8 per cent from twenty-five to thirty-five; 8.8 per cent from thirty-five to forty-five; 2.5 per cent over forty-five.

The cause of dementia praecox is unknown. Heredity, infections and toxemias, organic nervous disease, defective personality, age and particularly adolescence, syphilis and alcoholism of the parents, mental over-exertion—literally scores of possible causes have been advanced. But dementia praecox occurs in those of good heredity, in the absence of any demonstrable infection, toxemia, or nervous disease, in those of apparently good personality, at almost any age, in the absence of any known syphilis or alcoholism in the parents, in both sexes, all races, under the most diverse conditions, and can be recognized, though not so named in the descriptions of the old writers as far back as our records go. It is probable that we now include in this group several types of cases which will eventually be separated on the basis of etiology.

Group IX. Cyclothymoses—By contrast with dementia praecox, the prognosis in manic-depressives is always good for the attack although to be sure, some cases develop a circular type, or have successive attacks with very short clear intervals. In general, the depressions run longer than the manias, and the mixed types longer than either. The latter seem especially likely to exhaustion also. Emphasis is needed on the point that a mania or depression is not necessarily manic-depressive. Excitement is a striking symptom that may easily mislead, unless one makes a thorough examination. The worst excitements we have had to deal with up-to-date were those of two general paretics; the next worst, that of a chronic delirium tremens, and the next, that of a paranoid praecox. One may be misled into thinking the patient is depressed when it is really negativism or apathy. It is accordingly necessary carefully to distinguish between states of mania and of melancholia on the one hand and mania or depression

of the manic-depressive type on the other.

Our present reports indicate that five of our seventeen manic-depressive cases have recovered; one was killed by a train; the remainder are still in hospitals unimproved or only a little so.

The important elements in the treatment of manic-depressive cases are: over nourishment, hydrotherapy by means of prolonged baths and packs, careful attention to personal hygiene and to the surroundings, avoidance of drugs of the hypnotic class, and time. At present we regard this process as a self-limited one, in which careful attention to the above points may do much to shorten the attack. Psychotherapy in the form of a thorough analysis of the background of the attacks is important, but only in the intervals between attacks, and not during the attack itself.

It is in these last two groups that we find the greatest divergence of diagnostic opinion. This is because of the impossibility, up to now, of determining any exact tests of absolute differential value.

Group X. Paranoic Psychoses—Paranoia in its numerous forms was once an important part of psychiatric nosology. With the Kraepelinian regrouping of mental diseases according to outcome, and the establishment of certain etiological groups, the term paranoia has been restricted to a very small group of cases, although we still recognize many types of paranoic or paranoid conditions. There is a neurosyphilitic form: certain cases occur in connection with epilepsy: in fact, a paranoid state may occur in association with each of the groups we have discussed. The differentiation is to be made on the basis of symptoms other than the systematized delusions. The majority of such cases have symptoms of the praecox type, and are so diagnosticated. When we have thus so far as possible classified all the cases, we are left with a residuum of about 5 per cent of admissions (in this series 4 per cent) which we cannot further diagnosticate than to say they are "paranoic psychoses," a clinical-descriptive term. That is, they are "undiagnosed psychoses, paranoic type." They do not seem to be paranoia, paranoid dementia praecox, or any other type. Possibly they belong to the paraphrenia group.

One of our four cases was a case of true paranoia in the Kraepelinian sense: the others could not with certainty be classified.

Group XI. Psychoneuroses—Psychoneuroses are not so often seen by the psychiatrist as he would like. Only the very severe types, where "insanity" is suspected, or where the behavior of

the patient demands hospitalization, are likely to be referred to him, though many are treated by the neurologist. Essentially the psychoneuroses are minor forms of psychoses: i. e., we deal with phenomena having their origin in the mental life. Treatment, except for the immediate symptoms in hysterics, is likely to be prolonged and difficult. This is especially true of anxiety neuroses and neurasthenia.

One of our cases was in hospital for one day only: another for five days (a case of syphilophobia, with clearing of the phobia). Two cases of hysteria made good recoveries from the episode and were discharged in sixty-eight and thirty-four days. The unimproved cases were cases of long standing and in the hospital only a short time for diagnosis and advice.

It is impossible to discuss all of the bearings of the problems presented by the psychoneurotics. Suffice it to say that in this class we have a great interest, and particularly for this group plan an intensive attack from the psychogenetic angle, using all methods that have had any success in dealing with the problems.

XII. Psychopathoses—Two cases of psychopathic personality were sent to us because of acute psychotic episodes, from which they recovered. The other three were sent to us for study because of long continued conduct disorder.

This group of cases ("constitutional psychopathic inferiority") has become familiar to all with army experience. It is a definite group of defective personalities. Since the psychopathy is usually first suspected because of conduct disorder (using the term in its broad sense) there are those who believe that all misconduct is the result of mental disease and defect, and so that all who misconduct themselves are mentally diseased or defective, conclusions to which I do not at all subscribe. At the same time there is to be found enough mental disease and defect among delinquents to nullify all of the work of many correctional institutions which have not provided for the careful psychiatric study of their cases. A number of courts, notably the municipal and juvenile courts of Chicago and Boston, have now made such provision.

There are many types of psychopathy, represented by instabilities, inadequacies, and over-reactions of various sorts. An instance in point is one of our patients who made an attempt at suicide in a fit of depression over an unfortunate love affair. In the hospital the depression quickly disappeared, she obtained a new viewpoint and is now responding adequately to a difficult post. Frequently these psychopathies represent the

early acquired beginnings of more marked mental diseases, or else the soil on which mental disease is easily implanted.

Group XIII. Undiagnosed Psychoses—In 7 cases we were unable, for one reason or another, to arrive at a diagnosis. In general, about 3 per cent of cases fall into this group. Often the diagnosis becomes clear after some months, though some are never clear.

All of the seven cases are interesting and might be worth quoting. The following is the most interesting, hence is the only one quoted.

The patient is a boy of eighteen, whose mother has cerebro-spinal syphilis, and whose twin brother has congenital neurosyphilis. Patient has never shown any signs of congenital syphilis. Repeated Wassermann tests were negative. The spinal fluid was twice negative. Arsphenamine was given with no effect on the tests or on his condition. He was always brighter and better developed than his brother. Did well in school until onset of present trouble.

Three years before admission he began to show some unusual emotional reactions, and has gradually become worse, so that he gave up school one and one-half years ago. He began to show periods of restlessness, occurring about every four weeks, lasting seven to ten days, and followed by a lethargic spell. These were much like the spells which his brother had shown at the age of thirteen, the spells continuing until the congenital neurosyphilis was treated. Beginning in December, 1920, the patient's spells have been much worse.

In a typical spell, the patient is very restless, talking quickly and a great deal in answer to questions, is deluded and hallucinated, but with clear consciousness. He shows no queer activity. Such a spell lasts about ten days, and they recur about once a month. This is followed by a period of great good nature, and then becomes quiet, inactive, sober, and shows some insight into his excited phase. One spell was, instead of active, the reverse. He was very inactive, quite depressed, weeping easily, and considerably confused. This in turn cleared to the interval condition.

In such a complex case, it is very unsafe to venture either a diagnosis or prognosis. It raises many interesting questions as to congenital neurosyphilis, and its possible relations to the psychotic episodes. These questions are easily raised, but not easily answered. Hence discussion of them is deferred.

In some of the cases it might have been possible to force a diagnosis, but we do not believe that this is productive in any way.

Group XIV. Miscellaneous—No diagnosis was made in two cases because they were removed too soon for us to be certain even whether they belonged among the psychoses, epilepsies,

feeble-mindednesses, psychoneuroses or psychopathias (the five great types of mental disorder). The third case was one in which a certain depression, irritability and fatigue had not been properly correlated with an active pulmonary tuberculosis.

RESULTS OF TREATMENT

Enough has probably been said about the question of the outcome in these particular cases. Conditions were such that our figures can have no relation to the question of the recovery rate or effects of treatment in the mental diseases in general. At the Boston Psychopathic Hospital, about 25 per cent of the admissions were not psychotic, though many of them had some form of mental defect or epilepsy, etc. About 40 per cent of the admissions were committed to some hospital for the insane, and from 3 to 10 per cent were discharged as recovered. There the period of observation was ten days. What the eventual results here may be are entirely problematic. Our present figures will not even permit a guess.

CONCLUSIONS

1. Of the first 100 admissions to the Iowa State Psychopathic Hospital, fifty-one were men and forty-nine women. The ages varied from eight to seventy-one.

2. Sixty-six (thirty-eight women and twenty-eight men) came under the law permitting voluntary admissions. Eleven women and twenty-three men were committed to us by the court. Fifty-three cases (twenty-nine women and twenty-four men) were privately supported.

3. When committed to us by the court, the patients are not declared insane, but are committed as suffering from "an abnormal mental condition which can probably be remedied."

4. All of the major groups of mental disease, as listed by Southard are represented, except the alcoholic.

5. Neurosyphilis was present in six cases; three paretics, 1 paranoid, one feeble-minded and one epileptic (the latter two victims of congenital neurosyphilis).

6. There were ten cases of feeble-mindedness and seven cases of epilepsy besides the cases mentioned in five.

7. Cases due to organic brain disease and senile dementia were less than is usual. One case of senile dementia also had trigeminal "neuritis."

8. Of twenty-two cases of dementia praecox, two made good recoveries from the immediate attack, and have been at home for nine and six months respectively. Emphasis is laid on the

point that the prognosis in dementia praecox is not absolutely hopeless.

9. Taken together the dementia praecox (22 per cent) and manic-depressive cases (17 per cent) constitute 39 per cent of admissions. One-half of the admissions occur in these two groups and the psychoneuroses (11 per cent). In other words, 50 per cent of our cases fall into the so-called functional groups.

10. Emphasis is laid on the necessity for early treatment, and on the fact that mental cases may now be hospitalized on the same terms as cases of physical disease.

11. Present conditions in our crowded temporary service are shortly to be ameliorated by the opening of our new hospital building, when it will be possible to fulfill the four functions of the Psychopathic Hospital in adequate fashion.

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THE STANDARDIZATION OF METHODS OF TREATMENT IN ORTHOPÆDIC SURGERY AND IN INDUSTRIAL SURGERY OF THE EXTREMITIES AND SPINAL COLUMN*

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At a conference with the accident insurance commission of a great state held during the war it developed that the board was faced with the following somewhat embarrassing situation.

Their records showed that with surprising consistency cases presenting more or less typical lesions, such as Colles and Pott's fractures, varied in the length of time required for return of wage earning function and that this difference in time of recovery depended chiefly upon the surgeon to whom the board referred the case, rather than upon the mental and physical condition of the

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patient. The situation was embarrassing because these two groups had approximately the same standing in the community as to professional skill and medical ethics. The board selected only surgeons of good reputation and seemingly approximately equal ability, but these facts of utmost importance to the board remained indisputable.

The explanation may be found in the standardization of methods and in the unrelenting effort for the earliest possible return of function in the one group, and in the other in the more or less haphazard methods and in the lethargy in relation to return of function engendered by complacent satisfaction in the complete or partial immediate correction of the main lesion.

We have ventured to link together in our title industrial and orthopædic surgery for the reason that in both the importance of regaining the largest amount of function in the shortest possible time is paramount. One may say that some measure of success in restoring function in chronic and congenitally deforming conditions was almost the only excuse for the existence of the specialty of orthopædic surgery in its early days. This experience may possibly be valuable to industrial surgery, whose chief aim must be to prevent deformity and restore wage earning capacity. Moreover, as we watch the trend of surgery we find in the large centres a seemingly increasing tendency for the general abdominal surgeon to refer acute as well as chronic lesions of the extremities and spinal column to surgeons whose interest has led them to devote special attention to these lesions.

The American Orthopædic Association at its last meeting added to its old definition of the scope of the specialty the phrase, "In general, the surgery of the extremities and spinal column."

We are conscious, very conscious, of our limitations. No one can be more aware of the fact that many of us calling ourselves orthopædic surgeons are fitted to undertake only a few of the problems included in surgery of the extremities and spinal column. The surgery of the war, and industrial surgery as well, have shown how really few so-called general surgeons are, on their part, efficient "Menders of the Maimed," as Sir Arthur Keith has called Hunter and Hilton and Thomas, and the early American school of orthopædic surgeons. The specialty is trying to "hitch its wagon to a star" and insist that no matter what the limitations of its honored grandfathers or its present manhood may be, the youth who knocks at its doors shall have had a thorough training and been proved proficient in general surgery, and I hope internal medicine as well, before he is

welcomed into membership of the national association.

The demand for this type of surgery exists. How shall we supply it? By getting the demand more generally recognized, by stimulating interest in this type of surgery, and by standardizing methods of treatment.

This standardization must come first of all by thorough and entirely impartial study of our end results, not of months, but of years. The standards must constantly change, must advance, by research, by perfecting operative technique, by ingenuity in devising apparatus, and by ascertaining the value of various physiotherapeutic measures, but we can at least start to honestly study our end results now, enormously helped by the unfortunate plenitude of cases with which the war has furnished us at home and abroad.

We must pause a moment here to pay a tribute of thanks to Dr. E. A. Codman, to whom more than to any other surgeon the thanks of America are due for inflexibly maintaining that the measure of success of surgery is not the recovery of the patient from the surgical operation, but the end result of that operation in terms of increased functional capacity of the patient. "Man makes the wound, but God heals it," and we might well add, benignly accepts the help of his servants in restoring function while healing is taking place and often for a long time afterwards. The converse is true. Man may mar nature's cure to a distressing extent, not by intent, but by ignorance and unsound therapeutic principles.

We shall attempt to outline certain methods which seem to have stood the test of time and war and the fierce light of their end results. The outline must perforce be brief and indicative only, and can hardly fail to be flavored with personal conviction. Though we may bring you nothing new, we shall try to make a just appraisal and pay tribute to Caesar when tribute is due.

Let us first review the methods of treatment in a few of the conditions which have for years been considered as belonging almost exclusively to the domain of orthopædic surgery.

1. *Tuberculosis of the Bones and Joints*—The standardized methods of treatment of the systemic disease are the same in adults and children. Rest, followed by as much function returning exercise as is safe, outdoor air, heliotherapy in scientifically applied dosage, these are the irreducible minima. No one who has visited Rollier's clinic on the Alp at Leysin or who has watched cases in this country treated by his methods can fail to be impressed by the greatly enhanced gen-

eral high health with which the sun's rays provide the patient, enabling him to combat and often to overcome the systemic disease.

When we approach the problem of the treatment of the local lesion we must apply methods which are often very different in the lesions of children and adults. Thus in a general way, with growing bone we may re-echo the repeated dictum of Kirrmisson as he patiently watches and protects the suppurating joints of the too often neglected Paris children in his hospital wards, "jamais resection, jamais resection," but once we have made the positive diagnosis of tumor albus in an adult, whose full growth has occurred, our next step is to set the day for excision, and unless the joint is very acute as a result of trauma or too great use, the earlier we set the day the more perfect weight bearing and useful limb shall we secure.

In children the standard method of treatment of tuberculous joints is rest and fixation without open operation.

In adults we may say in general that the standard method is excision, striving and expecting to overcome the disease by depriving the joint of motion and therefore of the type of bony tissue in which the tubercle bacillus is most prone to grow.

In the hip joint in children there are still polemics as to whether fixation alone, with symptomless weight bearing allowed, or fixation plus traction, and without direct weight bearing, is likely to give the best end result. The one party maintains with Lorenz that a firmly ankylosed hip, in good weight bearing position, is the safest, and most useful end result in tuberculosis of the hip, and that simple fixation with weight bearing is the best way to obtain it. The other group maintains with Bradford that we may look with hope for the restoration of a range of motion which is without danger. Our personal opinion is that the social condition of the patient and hospital facilities largely dictate the method of choice. If he can receive little attention, a plaster spica is perhaps safest. If he can have careful home or hospital care, with intelligent attention to his traction, preferably in an abduction hip splint, the arguments for its use, based on the morbid anatomy of the lesion, would seem to bear most weight.

I believe I should place my child with acute hip disease in bed, with traction in line of deformity, should encourage painless active motion once or twice a day, and should allow weight bearing in a protective abduction splint only when I believed the disease was entirely quiescent, and per-

haps only when I believed it at least temporarily overcome.

I have dealt on hip disease in children because we see most unsatisfactory results in most cases under ambulatory treatment of all sorts.

The treatment of adult tuberculosis of the knee, probably the most frequent seat of the disease, is in our opinion definitely standardized. Excision, sometimes amounting to hardly more than erosion, by curved or mortised or by simple straight, flat resection of the joint surfaces, and the quick and necessarily partial removal of only gross pathologic tissue, is to be done as soon as the diagnosis is made and any acute exacerbation of the disease has been quieted down by rest and fixation.

We are convinced by a comparative study of cases that some form of internal fixation of the freshened bone surfaces in closest apposition greatly hastens bony union. We have used with success metal plates to be subsequently removed, kangaroo tendon in a bundle knot, wire nails, boiled beef bone, plates and screws, and at present are employing decussating pegs of round boiled beef bone driven in through drill holes extending from the outer condyle of the femur to the inner condyle of the tibia and vice versa. We expect fairly solid weight bearing union in three months; we have had it repeatedly in two, and have known it to occur in several instances in one. We have never known an adult tuberculous knee to permanently recover useful function without excision or erosion.

Spine—We consider the routine employment of homogenous bone grafts or extensive ankylosing operations on the spine in tubercular caries in young children is still sub-judice. We believe that recumbency in a corrective position on a Bradford frame can still show as permanently good results as any ankylosing operation and without too great sacrifice of time. To be safe we must stiffen by operation larger areas of the spine than nature does, and the story of possible secondary back and pelvic joint strain in later life has not been written.

In adults the boiled beef bone graft advocated by Gallie¹ and employed in the largest series of cases by Brown seems to be tolerated as well as the more mutilating homogenous grafts.

Rickets—When we see a bow-legged or knock-kneed child our first thought is braces or operation, but we must dismiss the thought until we are able to answer two questions: (1) Is the nutritional disease quiescent; (2) Is the deformity increasing or diminishing. Surprisingly bad cases of both deformities correct themselves if

the underlying disease is controlled. All light cases may be said to do so. If corrective operation is decided upon shall we do an open osteotomy, shall we break the bones without the skin (if we are lucky) in one of the many efficient forms of osteoclases, or shall we with strong hands strive to correct the deformity by separating the epiphyses after the method of Codivilla? There may be methods of choice in individual cases, but the large series of successful end results of the osteoclases of Blanchard² and the epiphyseal slidings of Codivilla should make us slow to condemn these rather rough—one may say almost brutal, but quite safe methods.

Adolescent rickets if there is such a disease, is another story. The so-called epiphyseal separation of the hip with coxa vara in fat boys and girls with small genitalia occur usually only as a symptom of this disease and are traumatic only in the sense that the final complete separation may occur as a direct result of very slight injuries. They may be usually greatly improved and often completely corrected by manipulation under full anæsthesia and fixation in full abduction. Preliminary bed traction is often helpful in old or extreme cases.

Scoliosis—What shall we say is the standard method of treatment of lateral curviture of the spine?

There is no standard method, nor are we able in many cases to secure anything like complete correction or even prevent the development of deformity under our very eyes by any method of treatment, exaggerated and hopeful claims to the contrary.

We must first of all see to it that we follow Ambrose Pare and strive to do no harm. Scoliosis is not faulty statics alone, else would every short leg in hip disease or in infantile surely develop it. They do not. It may be faulty statics, congenital or acquired, plus bone disease akin to rickets or osteomalacia, or it may be, we believe, bone disease alone. We seem to arrest or even correct many slight early cases by exercise, by light corrective braces, perhaps by forcible plaster jackets, but perchance the underlying bone disease corrects itself and nature does in reality what what we seem to do. In severe progressive curvatures it would seem rational to impose recumbency plus medication, plus hyperæmic physiotherapy, plus corrective appliances, but let us first remove the force of deforming gravity, always at work in the erect position.

Congenital Deformities—We shall mention only two, congenital dislocation of the hip and talipes equino varus or club foot.

Lorenz and others have claimed in young children 80 to 90 per cent of anatomically perfect reductions in congenital dislocations of the hip by the bloodless method. This per cent is probably in the light of the end results we are now studying considerably too high. Moreover, secondary changes in the contour of the joint surfaces which follow repositions and later impair joint function are more common than we have supposed. On the other hand, reduction by open operation has left far too many stiff hips in its train, unless we find that Galloway's recently reported large percentage of successes can be duplicated by other surgeons. Bloodless reduction is still the method of choice, with after-care a most important element in the ultimate correction. Up to four years, reposition is usually comparatively easy, but retention by no means sure. After seven, every successful case should be reported and medical literature will not be encumbered by these reports.

When should we begin to correct a congenital club foot? The day we discover it. First by daily manipulation and adhesive plaster or soft dressing retention in infants, and plaster of Paris dressings in later childhood, until once correction has been obtained and weight bearing in slight valgus can aid in maintaining the correction. In resistant cases of over four years, which have not been amenable to correction by repeated manipulations and retention in the three-part plaster of Fiske, Ober's operation, which consists of an open subperiosteal freeing of all restricting ligaments, deltoid, calcaneo-scaphoid, and plantar, is usually successful and non-mutilating. The twist of the os calcis must be corrected as an important base of the deformity, and if the fore foot still persists in turning in, the careful osteotomies and osteotomies of the tarsus and metatarsus after Hoke's³ methods are efficient. Bone operations in general are not standard methods of treatment in childhood. The immediate correction is often excellent, the end result as to future growth and progressive deformity often irremediably bad. Talipes equino varus tends to recur for years and our manipulative or operative correction must be often retained by braces or by specially corrective shoe balancing.

Poliomyelitis—It is almost futile to attempt to outline standard methods of treatment in poliomyelitis. We all know that in the early stages, for six months, probably a year, prevention of deformity is the only surgical treatment and is of utmost importance. Unexpectedly complete recovery often occurs. We also know that tendon transplantation, supplemented by tenotomies

if contractures have been allowed to occur, is our next procedure. The groups which may be transplanted with more or less standard results are becoming known and their number is diminishing with the knowledge. The intra-sheath method of Biesalski and Mayer⁴ represents theoretically the most perfect technique, but we are not yet convinced of its habitual necessity in light of end results. Training, unremitting and continuous, in the coordination of the remaining musculature is the last step; this muscle training if necessary aided by operative stabilization of joints, and ambulation with the least possible brace support the end sought and often obtainable.

Foot Strain and Faulty Weight Bearing—Can we standardize the treatment of this common and crippling condition affecting the laboring and leisure classes? I believe we may very nearly do so, if we do not become inflexible. If we attempt to bring about a cure by one type of apparatus we shall fail. If we accept as our diagnostic sign the height of the arch of the foot we shall be deceived. The most efficient feet are often perfectly flat in standing. If we recognize that strained feet, nor flat feet necessarily, are almost always induced by imperfect or inadequate muscle action we shall succeed in standardizing our treatment and in relieving our patients.

A great orthopædic surgeon in England never uses an arch correcting plate; a great orthopædic surgeon in New York never uses anything else, but they both realize that foot strain and accessory leg and back and body strains come from inadequate support of the arches of the foot by muscle action designed to protect them. The flexibility of the longitudinal arch and proper weight bearing lines are largely controlled by the pulls exerted by the lower muscles and the rotators of the thigh, the flexor longus hallucis, the posterior tibial, and anterior tibial, as adductors and protectors, the peroneals as abductors, balancers, and if too strong as the producers of pronation and foot strain. The main ligament which prevents the arch from falling is the calcaneoscaphoid. Pronation of the foot, the precursor of joint strain and flat foot, occurs at the calcaneo-astragaloid joint, not at the mediotarsal joint, as the text-books say. The sustentaculum tali must be propped up. Lower leg muscles protect the calcaneoscaphoid ligament and control the motion at the calcaneo astragaloid joint. The adductors should pull in, five pounds for every four pounds that the abductors pull out. This is normal balance. If the balance is not normal, potential or actual foot strain and faulty weight bearing exist. If abnormal balance exists we

must restore the normal—first by removing the common inducers of the abnormal, commonly shoes made on faulty lasts, by substituting non-deforming and often flexible shanked shoes. Sometimes this is not sufficient, and if the patient is to be kept at work and ambulatory we must give badly strained structures rest. This we may do by means of Thomas heels, adhesive plaster strapping, or by supporting and correcting foot plates, but if our cure is to be permanent we must permanently restore normal balance to the muscles. They will often restore the balance themselves if given a chance. If not, we must correct faulty body posture, teach them proper methods of walking, exercise the adductor muscles at the expense of the abductors. Restoration of normal balance is the standard treatment.

In anterior arch troubles and painful calluses the problem is the same, first, lift the patient off the painful metatarsal heads and mould the arch back by lateral pressure and supporting pads or plates, then teach the patient to lift his own metatarsal heads off the ground by the development of the long flexors of the toes and the intrinsic muscles of the foot. Rigid feet must be usually dealt with by manipulation or open operation, and are rarely completely relieved.

Osteomyelitis—One of the direct results of the war has been the standardization of the treatment of infected bone. The principle is disinfection. Many disinfectants have been used. We believe that Dakin's solution and Carrel's meticulous technique have shown better results than any others, and what is significant, these results have been repeated by other surgeons who have omitted no essentials of the method. Macroscopically infected bone must be surgically removed so as to leave a crater with no overhanging edges. When the bacterial count remains practically zero most of these craters may be filled with muscle or skin flaps and a secondary skin closure attempted, with excellent hope of success.

Curettage of the bone is no longer standard treatment, and the measure of its success we know, by the almost certain recurrences of trouble which have rewarded our formerly routine treatment. The surgeon who uses a curette to clean bone except in very rare instances should not today be considered a bone surgeon. Acute osteomyelitis means first early recognition and early complete drainage. It is quite possible, especially in children, to be too radical and to infect by operation healthy medulla.

Joint Infections—Although the war furnished an unfortunate plethora of infected joints, it contributed less than is generally supposed to the

available knowledge of the treatment of joint infections. In one important particular it may be said to have revolutionized treatment. Willems has apparently demonstrated that early voluntary joint motion, even in the presence of open wounds, provides the most adequate drainage and preserves the greatest amount of function. The war also disseminated the knowledge, previously gained by those whose experience had been large, that the synovial membrane, like the peritonæum, is extremely resistant to infection. Death frequently results from an unintelligently treated and badly infected synovia, as it does in general peritonitis, but with a little help, after a thorough lavage, a synovial cavity will usually take care of a mild infection better without a foreign body drain than with one.

Unless there is frank pus in the joint cavity we believe most joint infections may be overcome by making incisions of moderate length through the synovia, evacuating the fluid, passing a soft rubber catheter into the recesses of the joint, and washing out for ten minutes (as Cotton says, "ten minutes by the clock") with normal saline, weak bichloride solution, or some other mild antiseptic. Following this the synovia should be closed tight, and will rarely need to be reopened. This treatment is successful even in cases of marked distention showing a febrile reaction. It is, of course, most applicable to the knee, which is the joint most commonly infected. This method is especially valuable in the fulminating gonococcal infections.

If we have misjudged the severity or extent of our infection we must drain, and drain thoroughly. Until Willems's work we had supposed that this drainage could be best secured by large incisions and fixation. This fixation and drainage resulted either in a completely ankylosed joint or in a joint with so few degrees of motion that this motion was an actual menace. We now know that with comparatively small incisions and voluntary (never passive) motion, begun almost as soon as the patient has recovered from the anesthetic, we may secure better drainage, a freer lymph flow, and in many instances preserve a useful range of motion.

In spite of favorable reports, our experience with excision of septic joints does not lead us to believe that drainage is usually greatly bettered by the procedure. The end results have been certainly very distressing in many instances.

In joints upon which clean operations for internal derangements have been performed we believe that early voluntary motion, as soon as the stitches are out, perhaps before, will become a

standard method of treatment. We have passed the day when moderate effusion should contraindicate this movement, providing the cause of the original effusion has been removed and the joint be protected from dangerous extremes and sudden strains.

Amputations—We have gained much knowledge of amputations and our treatment has become for the time being fairly well standardized.

Let us pause here to speak with enthusiasm of the functional end result of a properly performed Syme amputation, especially since it seems to be discredited in many quarters.

We should choose our sites with the prostheses always in mind. We should strive to prevent painful nerve bulbs by careful shortening of the nerve trunks after preliminary injection of them with 90 per cent alcohol (according to the Huber technique). We should strive to prevent proliferative changes on the bone stump by removal of cuffs of periosteum and endosteum proximal to point of section in clean cases. We should apply traction to the skin above our flaps on the operating table and should maintain it until cicatrization has taken place.

In lower limb amputation we should provide a provisional prosthesis, usually in the form of a plaster pylon, and begin weight bearing as soon as our wounds are closed, sometimes in infected stumps even in the presence of granulating surfaces. The mental condition of the patient is enormously benefited thereby and the stump shrinking and hardening is hastened. The date when the final definitive limb may be supplied is brought nearer. This matter of early weight bearing is of great importance. It makes use of the initial intense desire of the man to regain activity in the upright position. This desire loses its intensity all too quickly in a comfortable wheel chair, pillowed by pity. It brings a return of wage earning capacity much earlier. Six months may often be saved. There are many thousand accident amputations in this country in a year. Saving six months' time on these thousands would mean the labor of a man saved to this country for half as many thousand years.

Sprains—There would seem to us to be three rules to be followed in standardizing the treatment of sprains.

1. Be sure the sprain is not a fracture or a sprain-fracture. If one exists we must prevent exuberant callus by more complete immobilization and less complete function.

2. Determine the exact anatomy of the lesion by ascertaining the method of its production and its mechanical necessities.

3. Protect the torn ligament or ligaments, usually by adhesive plaster, and allow immediate function, the completeness of which is directly proportionate to the completeness of the protection.

To illustrate: the ordinary sprained ankle is often associated with a crack in the fibula or a pull off of a bit of the external malleolus, but if no bone lesion is shown in the x-ray we are dealing with a tear of the external lateral ligament produced by a sudden forcible turning inward of the foot. This ligament, suddenly called upon to support the whole weight of the body, ruptures. If the foot is abducted in order to bring the fresh edges of the torn ligament into apposition, and retained in this position by a stirrup strapping of adhesive plaster running at least half way up the leg, the patient may be allowed to immediately bear weight. The massage of function reduces the swelling, and the healing of the ligament is in no way interfered with, and no painful stiffness results. With weekly strappings, in four weeks almost all, and in six weeks all, sprained ankles should be well, and function during recovery has been made possible.

Dislocations—The standard of treatment is complete reduction and incomplete fixation. I do not mean that it is unnecessary to immobilize the joint immediately after reduction, in order to prevent recurrence and in order to allow the torn capsule to heal, but that at the earliest possible moment, surely within a week, slight voluntary movement by the patient should be encouraged at least once a day, the retentive apparatus being removed under observation. The range of non-irritating motion should be increased from day to day. Far too many dislocations develop an obstinate stiffness from too cautious and prolonged immobilization. Safety first, but safety of function is gained by avoiding the danger of too long retention.

Fractures of the Spine—We shall divide these into those with definite symptoms of cord pressure and those with very slight or almost absent symptoms.

1. If there are definite symptoms of cord pressure less than those of complete severance, and the x-ray shows probable pressure from bony fragments, operation should be undertaken at the earliest moment the condition of the patient allows. Unfortunately these clear cut indications are usually not present and the debate between operative and fixative expectant treatment is on. Statistical literature helps us little, and we can only say that we believe when the arguments for and against operative procedures are nearly even,

we should incline to non-operative treatment. We should expect better averages of partial or complete recovery.

Of great importance are those fractures of the spine of the second class with very slight or absent cord pressure symptoms. Compression fractures with little or no kyphotic deformity and no pressure symptoms are comparatively common. X-ray alone confirms our diagnosis. Treatment by immobilization in recumbency should be immediate, complete, and prolonged. It is quite possible that the standard treatment will come to be early ankylosing operations on the spine by means of bone grafts or other fixative operative procedures. The time of prudent immobilization by apparatus may probably thereby be shortened and full wage earning capacity hastened. If recumbent immobilization can be instituted very early these cases may be expected to fully recover without operation, but we must maintain this protective immobilization for several months, perhaps six, if we are to avoid the subsequent irritative bony overgrowth changes (Verneuil's disease) which frequently cause increasing cord and nerve root pressure symptoms long after the original lesion is received. Transverse myelitis has been known to occur years after the fracture from this slowly occurring hypertrophic change. Fractures of unimportant spinal elements, e. eg., transverse and spinous processes, are frequently considered more serious than their immediate or remote symptoms justify, and are likely to receive too heavy compensation.

Fracture of the Clavicle—Fortunately little lack of function may be expected even if a considerable degree of deformity results. In an adult it is extremely difficult, if not impossible, to maintain good alignment by any of the classical methods, Velpeau bandage, Sayre strapping, etc. The shoulder will not stay back or up. The best and simplest method of maintaining alignment is to put the patient to bed with a pillow between the shoulders and the affected shoulder dropped back and held up. Fair to good alignment may also be obtained by at least one ambulatory method. This is the old fashioned clavicular cross made of wood or plaster, the cross bar being wide enough to prevent the figure of eight bandage turns, which pass over and pull back and up both shoulders, from cutting into the axilla. This dressing is comfortable when properly applied and is efficient. We know of no other method of ambulatory treatment which is as effective or as well borne or as easy to apply.

Fractures of the Shoulder Joint—If the humeral head is dislocated and comminuted, the

problem is at best difficult. The head must be replaced and usually only by open operation, as perfect apposition of the fragments as possible being gained by suture. Then the shaft is brought in alignment in whatever position of the arm is proved to be best for the individual case. Without dislocation, but with comminution, there is a tendency at present to excise one or all of the fragments. We believe this tendency is wrong, even if good apposition of fragments cannot be obtained. Excised shoulders are usually extremely handicapped ones and voluntary abduction is usually impossible. Surprisingly good function results from these severe comminutions, impossible to accurately replace without open operation, if abduction is maintained and too prolonged immobilization avoided.

The danger of ankylosis without removal of fragments is a real one, but if the arm be fixed in 70 degrees of abduction in the neutral position, i. e., half way between the mesial and horizontal planes of the body, and slightly rotated outward, a stiff shoulder is extremely useful and vastly better than an excised one.

In fractures of the upper portion of the humerus below the greater tuberosity, the upper fragment will be pulled upwards and usually rotated by the pull of the supraspinatus, infraspinatus and teres minor, while the pull of the deltoid and especially the pectorals must be reckoned with in the lower fragment. The short upper fragment must be followed by the long lower shaft fragment, and this as a routine (not without exceptions) means fixing the arm in abduction.

Shaft of the Humerus—We need perhaps here only remind you of the common feature of delayed union, and state our conviction that the very frequently employed internal angular splint, even with coaptations, is a mechanically imperfect method of fixation for these fractures. It fixes the lower fragment well and the upper fragment badly, and the leverage at the site of the fracture is great.

The Jones humerus traction splint fulfills the requirements and its principles of axillary, or rather upper chest wall, counter traction and complete fixation of the upper fragment should be adhered to, whether this splint or whether plaster of Paris is used.

If the whole side of the chest be utilized to retain these fractures, respiratory movements make the immobilization imperfect and a cough or sneeze may disturb alignment.

Fractures of the Elbow Joint—We should accept as standard treatment in fractures of the elbow joint reduction and fixation in acute flexion,

which in itself often most perfectly accomplishes reduction.

There is one all-important exception, which is, of course, fractures of the olecranon in which fixation in extension brings the fragments in closest apposition. There are certain other occasional exceptions to fixation in acute flexion which have been taken, but do not seem to us important, since flexion is the functional motion most often lost and if Sir Robert Jones' dictum of the recovery of motion is followed, almost complete range of motion can usually be conserved. This dictum is to allow during convalescence gradual broadening of the angle in which the elbow is fixed, the rate of increase always gauged by the ability of the patient to voluntarily flex the elbow to the position of acute flexion in which it was first fixed.

Fractures of Both Bones of the Forearm—These are hard fractures to hold and if non-union occurs they yield the poorest end results from bone grafting. They may be best reduced by traction and moulding, and the alignment best maintained by fixation in a plaster running well above the elbow and below the wrist, holding the forearm extended and almost fully supinated. By this method the two bones are held well apart, and the danger of synostosis is least.

Colles Fracture—We surely do not need to emphasize the supreme importance of breaking up the impaction in a Colles fracture at the wrist and the reestablishment of the normal difference in levels of the styloid processes. We believe, however, that most Colles fractures are not simply impactions, but rotations of the lower radial fragment as well, and that this rotation is frequently not corrected, or at any rate the correction is not maintained by the two side splints with ulnar deviation of the hand which have been considered efficient. Cotton⁶ and Loder have recently pointed out the persistence of this rotation and the impairment of perfect function which may result therefrom. We believe that their initial fixation in plaster with the wrist in palmar flexion and the hand in extreme ulnar deviation and rotated into pronation should be accepted as standard. We realize that this is the worst possible position for eventual function, but as soon as consolidation has begun this position may be gradually changed with little danger of slipping. The necessity of early motion of the fingers has been too well stressed to need emphasis.

Carpal Fractures—A word about carpal fractures and dislocations may be said. Reductions of dislocations of the semilunar, to be recognized only in lateral x-rays, have been reported and

should be attempted. We have failed in a comparatively recent one, and excision of the bone gave a useful but not perfect wrist.

The more common fractures of the scaphoid rarely if ever unite unless immediately recognized and fixed. If non-union occurs function is usually improved and pain lessened by removal of one of the fragments, the smaller as a rule. It should be explained to the patient that a more useful wrist may be expected, but not a perfect wrist. In doubtful cases both the injured and the well wrist should be radiographed, because divided scaphoids are one of the well known carpal abnormalities.

Fractures of the Pelvis—The standard treatment of fractures of the pelvis is recumbency and tight swathes or webbing belts, sometimes plaster spicas. These alarming fractures usually heal well and quickly and are less serious than is generally feared.

Fractures of the Hip Joint—We shall discuss only intracapsular fractures. In elderly people impacted fractures even with some deformity we often still leave impacted and fix lightly in spite of much advice to the contrary. In young healthy individuals the impaction should be broken up, and once loose, and in all originally loose intracapsular fractures, the only standard position for union is full abduction and slight inward rotation. We have at least passed beyond the stage of long side splint and Buck's extension. The necessities are close apposition of the fragments and the restoration of the normal angle of the femoral neck with the shaft. Abduction and internal rotation fulfill these necessities, whether this be accomplished by Whitman's long plaster spica, including the thigh on the unaffected side, or by Bradford's abduction Thomas splint, by double Thomas splints and Balkan frames, or the Jones abduction frame, matters little. Notwithstanding authoritative statement to the contrary, it is a difficult thing for a surgeon of more than average skill in the use of plaster of Paris to apply an extensive plaster spica to an elderly emaciated patient and make them comfortable or avoid the occurrence of pressure sores.

The results of the Maxwell Ruth treatment in which no splints are used, but in which the element of lateral traction is added to direct traction on the limb, are most favorable. The resultant correcting force is traction in the line of the femoral neck, the purpose of which is to secure accurate alignment of fragments.

Fractures of the Upper Two-Thirds of the Femoral Shaft—Traction is here the standardized method of treatment, and if intelligently applied

and actually obtained and maintained there is scant necessity for bone plates or open reduction. The Hodgen splint if applied as Hodgen prescribed will accomplish this. Weights and pulleys and overhead frames often succeed, but we believe that as the profession becomes familiar with the principle and advantages of integral traction and counter traction, the Thomas leg splint will be accepted as the standard.

There are a few simple rules concerning the femoral ischial ring. The traction bands must always be kept tight, but simplicity and sound mechanics are more characteristic of this splint than of any other with which we are familiar. In the upper portions of the shaft a moderate degree of abduction and flexion are important because of the action of the glutei and iliopsoas on the upper fragment and the adductors on the lower. Lower down we must be sure to restore the important normal anterior bow of the femur and meet the outward rotation of the upper fragment by slight outward rotation of the foot.

Fracture of the Lower Third of the Femoral Shaft—We see no reason for not accepting as standard treatment for these fractures direct traction on the femoral condyles by means of ice tongs as used by Beasley, and adopting Pearson's⁷ technique which has yielded such excellent results. Certain surgeons accept this method as standard for all fractures of the femur below the neck and have strong arguments to uphold them. Properly applied, the danger of bone infection is almost nil, pain is absent or no more than in other forms of traction, less weight is required, the knee may be kept exercised by Pearson's hinged appliance: only in this way is it almost always easy to correct the troublesome backward displacement of a short lower fragment.

Knee Joint Fractures—When T-fractures occur into the knee joint, elbow, and ankle with a separation of fragments and a widening of the articular surface, future function is endangered by this fact and by the possibility of non-union when the fragments are bathed by synovial fluid. Scudder's temporary clamps or Lambotte's long fine screws help much in maintaining close apposition, and voluntary joint movement should be begun very early.

Fractures of the Patella need no comment. Operative retention is the standard and we have yet to decide whether immediate suturing or suturing after a few days yields the best results.

Fractures of Both Bones of the Lower Leg—Often traction in these cases is scarcely less important than in fractures of the femur, though it need not be so prolonged. It may be obtained by

Sinclair's skate, or the glued sock, or by direct bone traction on the os calcis or malleoli.

Fractures of the Tibia—When the fibula is intact, traction is of less importance, but in the lower third and in spiral fractures displacement is often obstinate. In the long spiral fractures the Parham band is useful. In fractures of the lower third the common displacement backward makes it impossible to put the foot up at the desirable right angle, and sometimes it is wise to tenotomize the Tendo Achilles. Direct traction by means of a pin over or through the os calcis is often very useful.

Fractures of the Ankle—In Pott's fracture the bone lesions are comparatively slight, yet the functional end results are too frequently bad. We believe the reason for this is the failure of most surgeons to recognize two facts: 1. That the fracture is produced by abduction of the foot. 2. That the joint between the tibia and fibula is often spread and the foot displaced backward. The standard treatment of reduction is therefore, first, to pull the foot forward, and second, to adduct it, retaining the correction by a plaster cast.

A not uncommon ankle fracture has been described by Cotton and consists of a fracture of the lower end of the tibia into the joint extending from an inch or two above the joint on the posterior aspect. This triangular portion of the tibia displaces upwards and backward, leaving a jog in the articular surface, unless it be pulled downwards and locked by dorsal flexion of the foot.

Fractures of the Astragalus and Os Calcis—These are difficult and their treatment hard to standardize, since they vary in extent and location. In most astragalus fractures and in many os calcis fractures, the calcaneo-astragaloid joint is injured and the important lateral play of the foot partially or wholly lost. If partially, the result is more painful than when complete ankylosis occurs. Astragalectomy is at times justifiable, but less completely successful in adults than in children. In the fresh impacted fractures of the os calcis it is of great importance to correct malpositions, especially lateral displacements, and true up by open operation if necessary the lines of weight bearing, restoring as completely as possible the long arch of the foot.

Compound Fractures—Tinker⁸, in this country, before the war urged a careful cleaning of all compound fractures and a removal of devitalized tissue. If this could be done within a few hours of the accident he advised that it be followed by immediate closure. LeMaitre and Duval taught

the same lesson of early closure during the war, fighting against great odds of experience, but winning. The essential is getting at the cleaning process, or "debridement" as it has come to be called, within as few hours after the receipt of the wound as possible, not more than fourteen, and following a meticulous technique of dissection of devitalized tissue in which bacteria always develop. If the culture taken before this operation showed gas bacillus and streptococcus hæmolyticus, they did not close immediately, but otherwise their rule came to be absolute in all early cases. It should be the standard treatment of compound fractures in peace and it must be a rare occasion when attention cannot be given the case within the first few hours.

And in closing this long and very simple paper let me plead once again for the functional point of view in all treatment of fractures and joint conditions. If there is danger that joints will become ankylosed let us be sure that the position of ankylosis is that of greatest function—a shoulder in 70-80° of abduction; the upper arm half way between the mesial and horizontal planes in slight outward rotation; the elbow, depending on the occupation, one side or the other of the right angle position, but never in extension; the wrist in half normal dorsal flexion; the hip in slight flexion and slight abduction and slight outward rotation; the knee in 10° of flexion in a man who must walk well and stand at his work, but in 20-30° of flexion in most women, who sit at their tasks; the foot at a right angle to the lower leg, and never abducted.

It is with considerable hesitation that I have discussed standard methods of treatment in certain of the common fractures, especially those about joints. My interest has been large, but my experience up to the time of the war had been small. We have never had such an opportunity to attempt standardization as the war gave us and never such a chance to observe the results of these attempts.

The one great outstanding conclusion from these experiences is that in the early treatment of fractures of the long bones, the essential factor in relieving pain, securing alignment, maintaining fixation, and in minimizing shock—is traction. Traction immediately applied and maintained without remission until union has begun and muscle spasm has ended. Of course, we must have radiographs in two planes, or better stereoscopic. We must have fixative splints, alone or in conjunction with Balkan frames, weights and pulleys, but we must have traction

before all these—traction at the earliest possible moment. Conviction as to this essential principle is the stronger because in earlier war work at a large base hospital in the rear we had obtained what we considered were fair results by fixation alone, usually by means of elaborately conceived and carefully applied plaster casts. But we did not see the suffering of transport, though we appreciated the severity of shock, and we later learned that alignment could be better obtained and deformity more surely prevented by open splints and traction, than by fixative dressings alone, no matter how firmly they fixed. And so there came about the standardization of the transport splints for the army⁹, not more than seven of the open wire type, providing for traction and capable of being applied on the battlefield to every form of joint or long bone fracture. Moreover, it was demonstrated over and over again that as good end results could be obtained with the use of these splints up to the actual time of convalescence as by any other method.

Why should we not equip every hospital ambulance and every industrial plant with these splints? It appears to be our duty to urge such equipment.

It has been possible under stress and strain of war to standardize methods of treatment more than ever before, and the end results by and large have been impressively good. Individual care has often been wanting. In peace this can be supplied and will make end results still better, but the principle of standardization must be maintained.

Our patients have the right to demand the fullest amount of function at our hands, and standardization of methods of treatment by a study of end results will in some measure satisfy this just demand.

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THE USE OF DIGITALIS*

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During the past two decades, much work has been done on the subject of digitalis. Certain instruments of precision, especially the polygraph and electrocardiograph have served us well in the study of digitalis effect, and recent investigations have modified very materially former views of the action of the drug, prevailing opinions as to the indications for its use, and accepted standards of dosage. In the light of these facts one may justify himself in regarding as timely a review and discussion of our present knowledge concerning a drug so generally used and so long known as digitalis.

The outstanding effects of digitalis are exhibited by the heart and the nervous system. The cardiac response to the drug is the result of its effect directly on the muscle and on the conduction system through the vagus nerve.

There was a tendency not many years ago to disregard the effect of digitalis on the cardiac muscle, and to attribute all of the cardiac response to the stimulation of the vagus by the drug with the associated inhibition of conduction. The muscular response was frequently regarded as minor in importance. Cushny has steadily maintained, and we believe correctly, that the principal effect of digitalis is that exerted upon the cardiac muscle. The older doctrines so dogmatically taught to many generations of medical students, touching the power of digitalis to slow the heart, prolong the diastole and strengthen the force of the cardiac contraction have been confirmed by research workers as well as clinicians. It is this power to "strengthen the force of the cardiac contraction" which Cushny regards as the primary property of digitalis. With the increase in the force of the ventricular contraction the systolic output is increased, not only per beat but per minute. No attempt to estimate the therapeutic value of digitalis should fail to take into account, as the fundamental effect, that produced on the cardiac muscle. That digitalis acts to slow the heart through its effect on the vagus, was first demonstrated by Traube in 1851. The response on the part of the vagus nerve is specific: it is particularly striking as this property of digitalis is largely responsible for the brilliant results so often obtained in cases showing broken compensation, along with the type of cardiac irregularity, known as auricular fibrillation. Stimulation of the vagus, causes slowing of conduction;

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the time required for the propagation of the impulse to contraction from its source in the sino-auricular node, about the mouth of the superior vena cava, through the auricle, and the bundle of His, to the ventricle, is greater than the normal conduction time.

Diastole, the resting period of the heart, is prolonged, thus providing necessary rest and simultaneously favoring the supply of blood to the cardiac muscle; for the coronary circulation, in so far as concerns its nutritional function, is effected during diastole. Carried to an excess, the inhibition of conduction means a variable degree of heart block; this term may be used to cover a marked increase of the conduction time without any dissociation of auricle and ventricle, a failure of some of the normal stimuli to reach the ventricle, or complete auriculo-ventricular dissociation.

It might be well briefly, to state our present views of the origin and propagation of the impulse to cardiac contraction. Along with other functions, the heart is endowed with irritability as a result whereof, the periodical impulse to contraction arises. Normally and habitually, this stimulus production occurs in a definitely localized area characterized by special irritability. At this location it has been shown, that a collection of specialized tissue exists, known as the node of Keith and Flack, or the sino-auricular node, and it has further been proven, that under normal conditions, this node is the seat of origin of the stimulus to cardiac contraction, hence, it is often spoken of as the "pace maker." This sino-auricular node is found about the opening of the superior vena cava in the sulcus terminalis. From this node, the wave of contraction passes over the auricular muscle without the intervention of specialized tissue. In the auricular septum just above the auriculo-ventricular septum, there is a second node, the node of Tawara, of differentiated tissue, also known as the auriculo-ventricular node. From this node special fibers pass, making up the bundle of His the function of which is the conduction to the ventricle of the impulse to contraction coming from the auricle. Through multiple branching processes the bundle of His finally terminates throughout the myocardium underneath the endocardium in the specialized cells known as the Purkinje cells. Thus we see, that the heart originates its own contraction, and carries the stimulus thereto along tissue specialized for conduction. This tissue is regarded as muscular in origin. You will note that this theory includes no explanation of the influence of the nerves of the heart as related to car-

diac contraction. The cardiac nerves are known to influence both stimulus production and conduction; further than that, little can be said with certainty; the regular initiation and conduction of impulses are regarded as functions of the muscle.

As we pass beyond the therapeutic effects of the drug, we find that digitalis increases the irritability of the myocardium and tends to further the occurrence of extra-systoles; as an advanced stage of this effect, we have the "coupled beats" or *pulsus bigeminus*, a condition in which each normal beat is quickly followed by a premature ventricular contraction or, as it is usually named, an extra-systole, and this in turn by a long, or compensatory, pause. The onset of the *pulsus bigeminus* during the administration of digitalis is one of our most significant danger signals and an absolute indication for the immediate withdrawal of digitalis. The electrocardiogram also shows a change in the ventricular complex which is a constant accompaniment of the digitalis effect.

The influence of digitalis on the blood-pressure has been so greatly emphasized as to restrain many men from its use; it has been withheld from patients who needed it and would not have been endangered by its administration. The idea is widely prevalent that digitalis is a powerful vaso-constrictor and serves to cause a notable rise of blood-pressure. There is no experimental evidence to prove that therapeutic doses of digitalis raise the blood-pressure with uniformity or to any significant degree; on the contrary, the experimental evidence in favor of a rise of blood-pressure occurring as an effect of digitalis is derived from results obtained with a dosage far exceeding proportionately, any dosage used therapeutically. We have no hesitation in stating that in a dosage proportionate to the therapeutic dosage used in man, no constant vaso-constrictor effect, and no essential tendency to raise the blood-pressure can properly be attributed to digitalis. The subject will be referred to again, but, in this connection, I want to quote from Hatcher: "Another fallacy that dies hard is that digitalis and digitoxin act on the blood-vessels and cause high blood-pressure, and that they are therefore contraindicated in cases in which the blood-pressure is already high. This has been the greatest stumbling block in the way of the use of digitalis, next to that of the regulation of the dosage. Every one of the digitalis bodies acts on the vessels when enormous doses are passed directly into them, but this action is never induced by therapeutic doses. The contrary belief rests on the

observation of the effects of massive doses in animal experimentation, and is not supported by any careful clinical observations or experiments with therapeutic doses."

The effect of digitalis on the vagus has been discussed. Other effects on the nervous system are the stimulation of the center for emesis, which is the cause of the nausea and vomiting, so often encountered; these are central, not local. Diarrhoea, a much less frequent occurrence, is also of central origin, though gastrointestinal symptoms may be partly the result of vagus stimulation. Often there is a severe, persistent headache, so troublesome as to keep the patient awake at night. A satisfactory explanation for the headache has not been given. Many text-books state without much comment, that delirium may be a symptom of digitalis intoxication. The question as to the actual occurrence of such a delirium is unsettled; it is reasonable to assume that where the delirium occurs, under the administration of digitalis, as the cardiac symptoms are receding, that digitalis may be responsible; the evidence is more conclusive, if withdrawal of the digitalis is followed by prompt disappearance of the delirium. The matter is of clinical importance, inasmuch as confusion may arise as to whether the delirium is of cardiac or toxic origin; in the first case, the delirium will disappear under the administration of digitalis, in the second, after its withdrawal. It should be said that delirium is far more often a symptom of decompensation than of digitalis intoxication.

The efficacy of digitalis as a diuretic is uncertain. Two views are advocated: on the one hand, a definite secretory effect is attributed to digitalis; on the other, the diuresis is regarded as solely the result of improved circulation.

The therapeutic effects of digitalis are dependent on (1) the potency of the drug, (2) the dosage, (3) to a much less extent, the method of administration.

The potency varies with the time of year at which the leaves are gathered, and the pick varies from year to year; further variations depend on the way in which the leaves are cared for, the locality in which they are grown, the length of time during which the leaves or their preparations have been kept. Much has been said about the deterioration of digitalis and variations in potency. That such variations actually serve to present difficulties in the way of successful use of the drug is a matter of common knowledge, yet it is my opinion that this phase of the subject has been emphasized over much. Modern methods of standardization have given more certainty to the

dosage. Properly standardized preparations do not deteriorate as rapidly as is generally supposed. The leaves will retain their potency for months or years if kept dry and well covered. The tincture and the infusion will retain their original potency for much longer periods than is generally believed. Much of the lack of success attributed to a poor drug is really the result of insufficient dosage. As a good working rule, the best test of potency is the production of the physiological effects; a potent preparation, given in sufficient dosage, will produce one or more of the effects of the drug, though cardiac function may not show a favorable response.

About two years ago, Christian, in discussing these phases of digitalis medication, made use of these words: "It seems to me that the chief factor in the failure to get good results from digitalis lies in the improper use of the drug; most commonly the dosage given is insufficient. Insufficient dosage is partly the physician's fault, in part it is due to a poor digitalis preparation furnished by the druggist. The physician is prone to give quite small doses of digitalis and usually fails to push his dosage to the point of tolerance, as should be done unless a definite effect is produced sooner. How digitalis should be used was tersely stated by William Withering in 1785. 'Let the medicine be continued until it either acts on the kidneys, the stomach, the pulse or the bowels; let it be stopped upon the first appearance of any of these effects.' To this might be added, 'until it acts on the respiration.' In our books and our teaching bad effects from over dosage of digitalis and descriptions of contraindications to its use have been so emphasized that often the physician actually is afraid to give an adequate dose of digitalis. In a quite extensive hospital experience with cardiac cases, I cannot recall a single case admitted from the care of an outside physician in which too much digitalis had been given."

We are indebted to Eggleston for very valuable work in regard to the dosage of digitalis. He determined the physiological dose, the dose necessary to produce digitalis effect up to the point of appearance of the symptoms of intoxication. This dose for cats was found to be 0.146 cc. of the tincture per pound of cat, or 1 cc. to every seven pounds of body weight. Transferring his results to man, he first allows for excess weight due to edema; thus, supposing a man, whose usual weight is about 145 pounds to come under observation with extensive anasarca weighing 165 pounds; assuming that his real weight is somewhat under his usual weight, as the result of im-

paired nutrition with his cardiac disease, his present real weight might be estimated at 140 pounds. One hundred forty divided by seven (as stated 1 cc. of the tincture is given for every seven pounds of body weight) gives a quotient of twenty. The physiological dose then is 20 cc. or 5 drachms. It is a prerequisite to the use of the Eggleston method, that neither digitalis nor any of its congeners shall have been given within ten days, at least; preferably longer. Having determined these conditions for the treatment, the first dose, one-half of the total physiological dose, 10 cc., or two and one-half drachms of the tincture is given at a single dose; six hours later, one-half of the remaining half is given, 5 cc. or one and one-fourth drachms; six hours later, one-half of the remainder, and the final dose is given in another six hours, the whole being given in eighteen hours. However one may feel about the advisability of employing this method, the results are certainly prompt and striking. Here is proof that digitalis acts promptly: we have habitually gotten the effect after some delay, because of our small doses.

It is my opinion, that the method described is not suitable for employment outside a hospital. In one of his early articles, Eggleston admitted that 15 per cent of his cases showed toxic symptoms, though in no case did he encounter any serious results. The lesson of his work is the necessity for larger doses of digitalis than are commonly administered. Too often we have prescribed 10 minims of tincture—t.i.d.—and allowed the patient to get better without any treatment worthy of the name of digitalis medication. While we have not employed this particular method on our own service, we frequently, in the more severe cases, give the physiological dose within a period of forty-eight hours, with results that are altogether satisfactory, and with a minimum of toxic effects.

Intravenous therapy may be used to get the quickest results in emergency cases where prompt effect is imperative in patients who refuse to take medicine by mouth, or who are unable to retain medicine so given. Various preparations for intravenous use are on the market. The effect is more prompt, given in sufficient dosage, but, in general, oral administration meets our needs. Intravenous medication calls for the services of a skillful nurse or more attention from the physician as massive doses may not be given in this manner. In the intravenous use of digitalis the dose should be kept well below the dose already described as "physiological;" here the uncertain factor of absorption does not come into

consideration. Failure to inject the drug directly into the vein may cause considerable irritation of the tissues and routine use of the method may mean a great demand on the time of the physician. In general it may be said that intravenous digitalis therapy is not to be advised outside a hospital and inside one is rarely necessary.

Not much needs to be said in regard to the choice of a particular preparation. The nausea and vomiting are not local effects; there is no proof that the infusion has any specific effect promoting renal secretion. The preparation may be chosen to suit the convenience of the physician or the taste of the patient. My own choice has been for the powdered leaves; where the physician dispenses his own drugs, the tincture is probably the most suitable preparation. What is desired is the digitalis effect. This may be obtained with a suitable dose of either preparation. I might add that "drops" are not synonymous with minims: the dose must be accurately given.

Here, we might remark, that digitalis is not often to advantage replaced by any other drug of its group. Strophanthus may infrequently bring results where digitalis cannot be administered in sufficient dosage without unpleasant toxic symptoms, but not often do we succeed with the congeners of digitalis, when the most reliable, most readily absorbed and easily standardized drug of the group has failed us. Strophanthus is of such uncertain strength and absorptive power, that, in general, it is not to be depended upon and has no place as a substitute for digitalis, except in the occasional case where an attempt must be made to replace digitalis. Strophanthin, the alkaloid, may be used intravenously in emergencies. It should never be used in anything like a full dose if the patient has received digitalis within ten days, and the dose of one milligram, formerly advised, is so large as to be dangerous under any circumstances. A dose of one-half milligram, about one-one hundred and twenty-fifth ($1/125$) of a grain may be regarded as the maximum single dose.

It is in auricular fibrillation that digitalis has given its most brilliant results. Auricular fibrillation is another name for the condition known to us all as "delirium cordis;" it has also been aptly named, "pulsus irregularis perpetuus." Cushny and Edmunds in 1907 were the first to note the association of this form of pulse with the condition of the auricle known as auricular fibrillation. By this term we understand a functional disturbance of the auricle due to multiple inordinate contractions of the auricular musculature; nearly continuous, irregular, ineffective contractions which have no influence in further-

ing the circulation; so far as the capacity for its proper work is concerned, the auricle is paralyzed. We speak of the disturbance as "functional:" auricular fibrillation is most frequent in hearts which are definitely pathological, yet it may occur in the absence of any demonstrable anatomical change. We cannot assume, in the present state of our knowledge, a necessary casual connection between auricular fibrillation and any particular pathological condition.

If we will go back for a moment to our description of the manner of stimulus production you will recall a statement that stimulus production normally occurs at the sino-auricular node: yet it is also true that the entire cardiac muscle possesses this same function of irritability, this same power of stimulus production, though in a lesser degree. When the "pace maker" fails in its function or the conduction paths are destroyed, other areas, less irritable, may take up the work. It more commonly happens that the cardiac muscle, hyperirritable from toxins, anatomical change or over-distension, originates impulses beyond the control of the "pace maker." In auricular fibrillation we have an extreme instance of this very condition; impulses coming from many sources originating in the contractions of small sections of the auricular musculature produce such varied and numerous stimuli to contraction as to leave the auricle as a whole entirely incapable of response to stimuli originating in the normal location; in short the sino-auricular node has lost all control over the heart. It is like a commander who sees his subordinates panic stricken in a rout.

As a result of the numerous, almost continuous contractions of the auricle arising from independent contractions of groups of fibers, multiple stimuli are carried to the bundles of His. Not all of these are carried to the ventricle, for the conduction fibers are incapable of carrying so many impulses, yet the stimuli carried to the ventricle may greatly exceed the number normally carried, and the ventricle is subjected to the effort necessary to a response to these multiple, irregular stimuli. The ventricular beats are irregular in time, unequal in force. The irregular stimuli coming from the auricle may excite ventricular contraction before full tone is regained, or before the cavity is normally filled. In either case the pulse is weak or altogether missed at the wrist. There arises, therefore, a difference between the apical beat and the radial pulse, which is apt to be more marked as the ventricular rate is increased. This difference between apical beat and pulse rate is known as the "pulse deficit." In

the worst cases, the pulse deficit may equal or exceed the pulse rate at the wrist. As improvement occurs the deficit lessens; the radial pulse becomes nearly or quite equal to the ventricular beat, though in many cases of long standing fibrillation a slight deficit is constant. It must not be overlooked that in such cases the pulse is not to be regarded as the criterion for the use of digitalis. I have seen a pulse rate of 60 with a ventricular beat of 140, and digitalis withheld because the pulse was slow. Under digitalis therapy the ventricular rate fell promptly below 90, while the pulse rate went up to 78. Consideration of the pulse rate alone would have led to the paradoxical conclusion that digitalis quickens the heart rate; the apical beat is the correct measure of the heart rate, the proper standard, whereby we estimate the need for digitalis.

The diagnosis of auricular fibrillation can usually be made without instrumental aid, other than the stethoscope. It is based on the following points: (1) the absolutely disorderly cardiac rhythm; (2) the lack of relationship between the force of a beat and the pause immediately preceding. A long pause may be followed by a weak beat, a short pause by an unusually strong one; (3) as the pulse quickens (for instance, after exercise) the irregularity is aggravated; (4) the occurrence of a markedly irregular rhythm with mitral stenosis or the arterio-sclerotic type of heart, especially with broken compensation is very suggestive of auricular fibrillation.

In this condition, digitalis gives the full benefit of its two principal effects; more effective systolic contraction due to the effect on the muscle, less frequent contraction, because of the inhibition of conduction, and the vagal effect on diastole. As a result of the effect on conduction the ventricle is protected from the multiple, anarchic stimuli arising in the auricle, it beats less often, the beats are more effective, diastole is prolonged, the ventricle is better filled; because of increased muscular tone the ventricle empties itself more completely. The pulse deficit is lessened; the systolic output is increased. Stewart and Scott have shown that the blood flow in the hands in these cases is increased; we all have seen often enough the improvement in the circulation, in general. The inhibition of conduction in these cases of fibrillation is probably not confined to the vagus effect alone; in the normal heart, atropine will counteract the effect of digitalis on the vagus; in fibrillating hearts, this effect of atropine is often lacking. Apparently, in many cases of fibrillation the conduction system is directly influenced by digitalis.

The administration of digitalis should be continued in fairly full doses until the ventricular rate falls to 70; thereafter it is better to continue small daily doses over long periods of time in a large proportion of the cases.

Without question, this continuous treatment, keeping the patient under the influence of the drug, will often enable a patient to have much longer intervals of freedom from symptoms than he would otherwise have. Doubtless, the protection of the ventricle from the continuously fibrillating auricle, originating stimuli to contraction, accounts for the favorable action of digitalis here. The necessary daily dose will vary with the patient. An average single dose of about 25 or 30 m. of the tincture is usually satisfactory, and most patients can be taught to judge the dosage for themselves if they are informed regarding the early symptoms of intoxication. Favorable results with the prolonged use of a daily dose about equal to keeping the patient in a digitalis equilibrium are not restricted to cases of fibrillation.

With exceptions, negligible from a practical standpoint, broken compensation is the indication for digitalis. There has been some discussion in recent years as to the value of digitalis in cases which show a regular pulse. It is true that the pulse rate is less quick to respond here than in auricular fibrillation; the direct effect of digitalis on the conduction system in fibrillation is the probable explanation for this difference. Nevertheless, the clinical results are good; the general condition does improve, œdema and dyspnoea disappear. At the County Hospital, we see many cases of broken compensation with the pulse regular; these are cases of cardiac failure in hypertension, cardiac syphilis, dilatation secondary to emphysema, often, also, in rheumatic hearts, and it is with full assurance, from our own experience, of its usefulness that we administer digitalis.

Reference has already been made to a statement by Hatcher regarding the persistence of the belief that digitalis raises the blood-pressure. We may repeat that there is no proof that digitalis in therapeutic doses raises the blood-pressure. From the clinical side, investigations have shown that about one-third of the cases in broken compensation under treatment with digitalis show a rise of systolic pressure, the rise rarely amounting to as much as 20 mm. of mercury; about the same number show a fall of systolic pressure, while the others show no change in the systolic blood-pressure readings. The diastolic pressure falls in a considerably majority of the cases; there may be a simultaneous rise of systolic and diastolic pressures, there may be a simultaneous fall

or a fall of the diastolic without any change in the systolic or accompanying a systolic rise. Whatever direction the change in these factors may take, there is one outstanding tendency usually present, the systolic and diastolic pressures diverge. In other words, under the influence of digitalis, in decompensation, the pulse-pressure tends to rise; the work of the myocardium is more effective, for the pulse-pressure represents to us the most available clinical index of cardiac output and power. In the presence of cardiac failure, with hypertension, digitalis is not contra-indicated; on the contrary, it is extremely useful in such cases, and may be used without any fear of deleterious effect on the blood-pressure. Now and then, sudden death has occurred in a patient improving under digitalis, and this has been accepted as proof that digitalis may cause a dangerous rise of blood-pressure, a relic, as it were, of the old doctrine cherished with religious fervor, that digitalis raises the blood-pressure and may cause the rupture of a cerebral vessel. As a matter of fact, death may be due to a very different cause. While digitalis cannot be regarded as effective in the restoration of a normal rhythm when fibrillation is present, it does lessen the number of inco-ordinate fibrillary movements; often the waves of coarse fibrillations can be seen in the electrocardiogram as the fibrillations become less frequent, are diminished, for instance, from 600 to 400 or less per minute. With the appearance of these coarse waves, it is conceivable that the auricle gets some grip on its contents, resumes in a minor, really useless way, its function. Now, during the period of most aggravated fibrillation and most complete absence of auricular function small clots are often formed in the auricular recesses; with increasing auricular function, pieces of such clots may be released, with resulting emboli. It is a paradoxical situation, indeed, that in controlling the fibrillation, we invite the possibility of emboli. Fortunately, the latter are rare; it should be emphasized, however, that sudden death under a course of digitalis, especially in auricular fibrillation is not necessarily the result of digitalis poisoning.

The idea that digitalis, because of its tendency to prolong diastole, is contra-indicated in aortic regurgitation belongs to ancient history. Where decompensation exists, neither aortic regurgitation, nor aneurism, its frequent companion, contra-indicate digitalis; though it is true that the response of the syphilitic forms of cardiac disease, from which infection the above named conditions most often arise, is, in general, not very

good; once broken compensation occurs with cardio-vascular syphilis, the outlook for the re-establishment of a compensation adequate to any occupation is less promising than in other types of heart failure.

The favorable effects of digitalis in certain cases of angina pectoris are often forgotten. I do not refer to the cases without any sign of decompensation; there are, however, many cases with angina, the attacks of which are more frequent, where compensation has failed. It is in this latter group that digitalis may be of service, not only in cases with well-defined decompensation, but particularly in the cases in which the attacks of angina are associated with the slighter degrees of cardiac failure, as the easy onset of dyspnoea, especially when this is accompanied by physical signs of passive congestion of the lungs. In such cases, digitalis will often prove of the utmost service in diminishing the frequency of the attacks.

The use of digitalis in the presence of certain arrhythmias, or for the relief of the same is another aspect of digitalis medication about which there is much confusion. With regard only to the irregularity digitalis has no place in the treatment of the arrhythmias. Digitalis increases the irritability of the cardiac muscle and may therefore be the cause of premature contractions or extrasystoles; therefore in the case which is seen because of the irregularity or in the case where the irregularity is accidentally discovered in the course of an examination, there is no indication for digitalis; there is rather a contra-indication. In these conditions, the drug will do no good, and may do harm. When premature contractions happen to be present with broken compensation digitalis should be given for the cardiac failure. Often the irregularity is greatly improved as the general circulatory conditions are better; on the other hand, their presence originally means a hyperirritable myocardium, and the heart must be carefully watched for evidence of an unfavorable response to digitalis. Any decided aggravation of the irregularity under the administration of digitalis may call for its discontinuance.

There is a form of arrhythmia to which reference has been made, characterized by the regular appearance of premature ventricular contractions; this rhythm is very significant of digitalis intoxication and calls for immediate withdrawal of the drug. I refer to the pulsus bigeminus. In this condition, each normal beat is quickly followed by a premature contraction and this in turn by a long pause. The beats occur in pairs, forming the so-called "coupled rhythm," or the pulsus

bigeminus; the second beat may be so weak as not to be felt at the wrist, giving the impression of a very slow heart beat. This rhythm may occur in any heart, normal or pathological, as a symptom of digitalis intoxication; a true "coupled beat" is rare except as the result of digitalis, and the onset of the rhythm in a person taking the drug, is always an indication for the absolute withdrawal of digitalis.

"Pulsus alternans" in which the time interval between beats is normal, but the beats are alternately weak and strong, is usually a symptom of advanced myocardial degeneration. In itself, it is not an indication for digitalis, but it often accompanies broken compensation; though pulsus alternans is regarded as of bad prognostic import, digitalis, probably through its effect on the cardiac muscle frequently gives good results. Like auricular fibrillation, it is a condition in which, after cardiac failure has been overcome, the drug may be administered to good advantage, over long periods. The "tonic effect of digitalis" as it has been called, apparently seems to prolong the period of freedom from symptoms.

I will no longer intrude upon your time and patience by a discussion of the use of digitalis in the infectious diseases, especially in pneumonia, acute endocarditis and pericarditis. This is debatable ground, very much so. May I briefly summarize:

1. The accepted dosage of digitalis is too small.
2. The best test of the potency of any digitalis preparation lies in its power to produce physiological effect; the drug should be given with that end in view. Where circulatory response is not obtained, the drug should be pushed to the physiological effect; the nausea and headache, though not of serious import, indicate withdrawal or decided reduction of the digitalis; heart-block and the pulsus bigeminus are of serious import, and indicate immediate and entire withdrawal of the drug, until these toxic symptoms have disappeared.
3. Digitalis is not to be withheld on account of the presence of hypertension.
4. Certain cases of angina pectoris, with evidences of cardiac failure may be benefited by digitalis.
5. Digitalis has no place in the treatment of the arrhythmias, as such. As a general rule auricular fibrillation with broken compensation gives the most satisfactory response to digitalis though fibrillation by itself is not necessarily an indication for digitalis. Certain special reasons for the more or less continuous administration of

digitalis in the presence of auricular fibrillation and pulsus alternans have been pointed out.

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LESIONS OF THE CERVICAL SYMPATHETIC

With Report of Three Cases

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The nervous mechanism of man is composed of two great systems, a cerebrospinal nervous system and a sympathetic nervous system. The former, which by all means is more extensive than the latter, is made up of the brain and spinal cord and their respective pairs of cranial and spinal nerves. The sympathetic system, which extends from the base of the skull to the front of the coccyx, forms two gangliated chains of nervous tissue, one on either side, which lie close in front of the vertebral column. Here and there along the course of these parallel chains, intercommunicating fibers are given off which form plexuses, and by means of the rami communicantes or connecting fibers, this system is united to the central nervous system through the anterior primary divisions of the spinal nerves.

The cervical portion of the sympathetic chain, the one which especially invites our attention, contains a set of special fibers, the oculo-pupillary, which are clinically of considerable importance. The fibers supply the dilator pupillæ, the nonstriated portion of the levator palpebræ superioris, and the orbital muscle of Muller; also secretory fibers are sent to the submaxillary glands, to the cutaneous blood-vessels, and to the sweat glands of the head and neck.

The signs of paralysis of the cervical sympathetic are very characteristic, and clinically are represented by myosis, pseudoptosis, enophthalmus, loss of the ciliospinal reflex, and anidrosis of the skin area innervated by these branches. On the other hand, when lesions produce symptoms which are irritative rather than paralytic in character, a reversal in the symptomatology is found as evidenced by mydriasis, exophthalmos, widening of the palpebral fissure, delayed descent

of the upper lid when the eyeball is rotated downwards, and unilateral sweating of the face on the affected side.

The report of the following cases in which involvement of the cervical sympathetic branch occurred will prove of interest, I believe, in that they show three distinct ways in which lesions of these branches may occur:

Case I. Paralysis Due to Malignancy

Mrs. S., aet. 47, white, married, was referred to me June 20, 1914, suffering from the effects of a carcinomatous condition of the right neck, shoulder and axillary regions. The family history was negative as to malignancy and nervous disorders. Nothing of



FIGURE 1. View of Case 1 showing marked edema of right upper extremity secondary to constriction of axillary vessels. The right cervical sympathetic branch has also been caught in the carcinomatous process.

direct bearing on the case was obtained from the personal history.

Four years previously a lump had been noticed in the right breast and after a few weeks of "observatory treatment," the breast was amputated and presumably the axilla enucleated of glandular material. A section from the growth was subsequently examined and reported as being "suspicious" of cancer. For two and one-half years following the operation comparative comfort and ease were entertained, only to be gradually replaced by a progressive and insidious development of pain in, and edema of, the right upper extremity, which conditions so often characterize the sequelæ of this class of operative work. Gradually as the cicatricial tissue in the axilla became more and more unyielding, the increase in pain and edema not only kept pace with the contraction of the scar tissue growth, but the range of arm movements became impeded until the arm was finally bound down to the chest wall. Since December, 1913, pain

in the extremity had been an almost constant factor, while the edema increased until the parts were swollen to almost three times their normal size.

During March, 1914, the right eye became somewhat reddened and at this time it was first noticed that the upper lid had a tendency to droop. The improvement, coincident with the relief from the coryza with which she was then suffering, failed to remedy the falling of the lid and this condition had

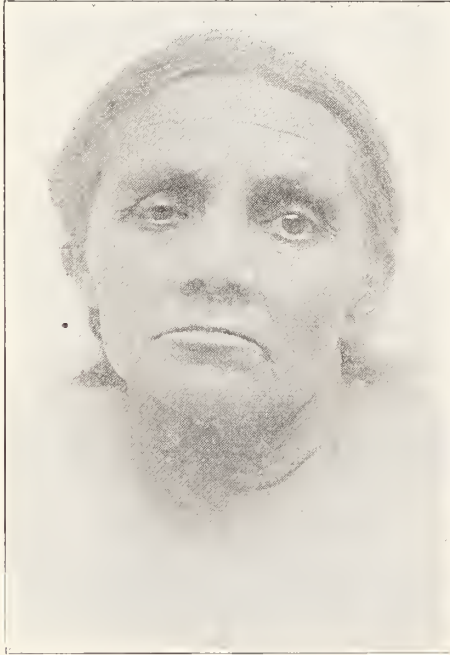


FIGURE 2. Paralysis of cervical sympathetic on the right side. Near view of Case 1 showing oculo-pupillary phenomena, i.e., myosis and pseudo-ptosis on affected side.

since remained a constant factor. The following notes pertaining to the cervical sympathetic involvement were taken at the time of examination:

"The degree of ptosis present on the right side is perhaps the most striking clinical phenomenon present, and yet the condition is more apparent than real since the lid can be elevated or closed at will (pseudoptosis). The ocular movements are free and equal in all directions and there is no evidence of nystagmus, diplopia or hemianopsia. There is a noticeable inequality in the pupils, the right one showing considerable tendency to myosis, is regular in outline, is not fixed, reacts feebly to light and in accommodation and convergence, and responds to a small degree when light is thrown on the opposite pupil. There is no response, however, when the cutaneous area about the neck is pinched or irritated nor does the pupil dilate when a few drops of a cocaine solution are dropped into the conjunctival sac. The pupillary findings of the left eye are all normal, although the ciliospinal reflex is sluggish. Ophthalmoscopic examination is entirely negative.

The eyeball on the right side is not nearly so prominent as is the one on the opposite side and while this degree of difference is not so appreciable when the eyes are compared from the front, yet the difference in the antero-posterior projection between

the eyes is readily observed on standing behind the patient and looking down at the forehead and eyeballs from above. Palpation of the two globes, however, does not reveal any appreciable difference in the intraocular pressure. Owing to the cachexia, which is more or less manifest, the face is somewhat pale, but careful observation shows an absence of any flushing on the right side, while a considerable area of the left forehead and a small cutaneous patch below the left eye are somewhat reddened in color. There is an absence of moisture on the right face, neck, and, to some extent, the shoulder region, while the same areas on the left side are bathed in a drenching sweat when the weather is humid. Cutaneous sensation of the face appears normal but about the root of the right neck and over the clavicular regions there is an appreciable blunting to painful stimuli."

Case II. Paralysis Due to Toxemia of Pregnancy

Mrs. G. I., aet. thirty-two, white, primipara, was first seen by me in consultation January 25, 1916, suffering from the effects of toxemia of pregnancy. She was a frail, spare like, woman and while not strong physically had never suffered from a serious illness prior to the onset of her present trouble. Her last menstrual epoch had occurred on May 4, 1915, since which time she had been under the care of a competent physician. Nothing of note occurred during the early months of gestation and not until the approach of the eighth month did symptoms of an untoward nature make their appearance. At this time the urinary output gradually became lessened in amount, albumen and occasionally a few hyaline and hylo-granular casts were found on examination, and a gradual increase in the blood-pressure, accompanied with headache, took place. In spite of all that could be done the toxic symptoms increased, with the result that the patient was removed to a hospital (January 25) and given the advantage of free elimination. The systolic blood-pressure fell from 175 m.m. to 165 m.m. and the 5 m.m. ring of albumen to 4 m.m. within the first twenty-four hours. The eyes were entirely negative, the fundi normal and no albuminuric deposits were present on the retinae. Two days later the systolic pressure registered 138 m.m., albumen ring about 2 m.m. and the eye findings, as above enumerated, were confirmed by Dr. C. E. Werts. On the third day the pressure was still lower, 130 m.m., the albumen less than a 2 m.m. ring, no casts, and the patient feeling fine. Without apparent cause, however, within the next twenty-four hours the systolic pressure arose to 205 m.m., the albumen content increased to a 4 m.m. ring, headache ensued, and fearing the onset of eclampsia, a Cesarean section was performed which resulted in the delivery of a small delicate child, and the cessation of pre-eclamptic symptoms. Owing to the toxicity, the baby died on the following day.

A day or two following the operation, contraction of the right pupil was observed, accompanied also by a tendency for the upper lid to droop. This

phenomenon increased until the pupil was distinctly myotic and pseudoptosis of the lid well marked. Repeated observations failed to find more than these two signs, not could any cause for the same be found in the chest or neck. An uneventful recovery ensued as far as the toxemia was concerned, but when last observed, some months later, the myosis and

cine was employed, the cough continued for several months. During these illnesses considerable weight was lost, the most of which had subsequently been regained. At about two years of age, the mother noticed that there was a tendency for the left eye to turn inward at times which condition was shortly followed by a partial dilatation of the right pupil, which phenomenon had since remained.

On examination the head was found to be of normal shape, but the anterior fontanelle was not quite closed. There was marked inequality of the pupils, the right being greatly dilated. Both pupils reacted to light and in accommodation. The ocular movements appeared equal and full in all directions. A few faint nystagmoid movements were noticed when the eyes were turned to the extreme right. The tonsils, while not appreciably large, were reddened as was also the pharynx. The post-cervical glands were distinctly palpable but the thyroid gland was small. Axillary temperature was 98° F., pulse rate 110°, heart normal. The breath sounds were harsh over the upper right pulmonic apex, while a few dry rales were heard in the right axillary region. On light percussion over the upper sternal region, moderate dullness, extending beyond the lateral borders, was elicited. The abdomen and genitals were negative. The knee jerks were preserved but the arm jerks were very sluggish. A skiagram of the

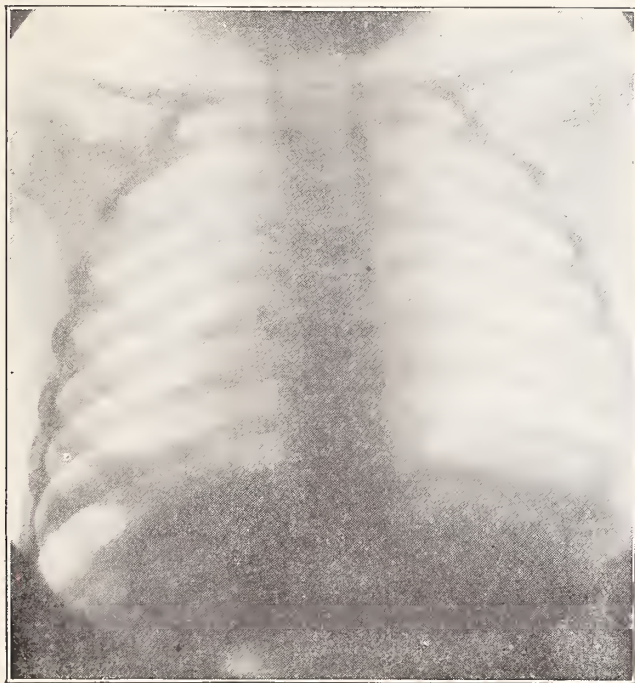


Figure 3. Skiagram of thorax of Case 3 showing enlargement of thymus gland.

pseudoptosis were still present. It may be of interest to note that the patient was reported to have passed through a subsequent pregnancy uneventfully.

Case III. Irritation Due to Enlarged Thymus

B. McN., aet. twenty-eight months, white, male, was referred to me December 7, 1917, on account of dilatation of the right pupil and a tendency for an internal squint of the left eye. The family history was negative. Both parents were living and well. One brother, aged four years and a sister aged two months were likewise healthy. The personal history showed that the patient had been born at full term following a normal labor; weight twelve pounds. Was breast fed until weaned at fourteen months. Dentition was delayed until a year old at which time he also began to walk a little. Although past two years of age, it was still necessary that napkins be worn. His vocabulary consisted of only a few words and while he entered into play to some extent with other small children, yet it was readily noticeable that he was backward in many ways. To a certain extent, he was able to obey simply commands.

When eighteen months of age, he suffered a severe attack of measles, the accompanying febrile movement being high, 105° F. and lasting about ten days. Apparently a good recovery ensued, when a severe attack of pertussis developed. Although vac-

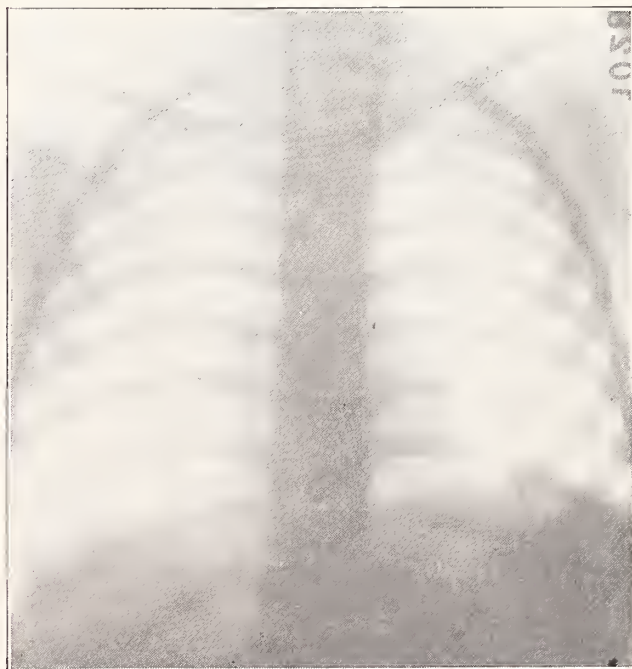


FIGURE 4. Skiagram of thorax of Case 3 showing absence of thymus gland after x-ray treatment.

chest showed the presence of an enlarged thymus gland. The lung tissue was clear and there was no evidence of any involvement of the peribronchial lymph nodes. A few x-ray treatments over the thymic area produced marked diminution in the size of the gland, with a subsidence of the pupillary dilatation.

COMMENTS

Case I represents the entire syndrome of paralysis of the right cervical sympathetic branch, i. e., myosis, pseudoptosis, enophthalmos, anidrosis, and loss of the ciliospinal reflex. The cause for the same is very evident, being due to an extensive involvement of the pectoral, axillary, neck and lung regions on the right side with a rapidly spreading carcinoma which caught in its meshes the cervical sympathetic branch.

In case II the paralytic symptoms made their appearance just after the height of a severe toxemia had been reached. While apparently only the branches supplying the iris and the involuntary muscle fibers of the upper lid were involved, the subsequent observation of the case did not extend over a sufficient period of time to permit of a more detailed account as to the final outcome of the paralysis, whether regressive, stationary, or progressive. That sympathetic paralyses do occur during the puerperal state, however, has been observed by both Horner and Michel.

Case III affords an illustration of a direct departure from the symptoms outlined in the preceding cases. Here the dilatation of the pupil was due to an irritative lesion involving the oculopupillary branch rather than one which was paralytic in character. It is not unreasonable to assume, however, that had the pressure from the enlarged thymus persisted, a change in the symptoms would have taken place, and, sooner or later, those of an irritative nature would have been supplanted by those of a paralytic kind. The tendency for the inward squint of the left eye was due to an improper muscle balance, and apparently bore no relation to the symptoms produced by the enlarged thymus.

922 Bankers Trust Bldg.

DR. ALFRED S. BURDICK

Dr. Alfred S. Burdick who becomes president of the Abbott Laboratories to succeed Dr. W. C. Abbott, recently deceased, is a graduate of Alfred University, New York, and the Rush Medical College, Chicago.

Previous to becoming connected with the Abbott Laboratories, in 1904, Doctor Burdick was engaged in the practice of medicine, and editorial work. He is author of the Standard Medical Manual, and editor-in-chief of the American Journal of Clinical Medicine.

For a number of years, Doctor Burdick has been vice-president and assistant general manager of the Abbott Laboratories. During the illness of Doctor Abbott, for the past two years, Doctor Burdick has been the active head of the business. He has di-

rected the research work, resulting in the development of a number of newer medicinal chemicals.

He is a member of the American Medical Association, Illinois State Medical Society, Chicago Medical Society, and the American Chemical Society. He is well fitted to carry out the policies already established by Doctor Abbott, and is well and favorably known to the medical profession, and in the pharmaceutical industry.

DR. WALTER L. BIERRING OF DES MOINES
HONORED

We enjoyed the privilege of reading a notification received by Dr. Bierring that he had been made an honorary member of the Royal College of Physicians of Edinburgh. We have been permitted to publish the letter. High honors come so rarely to Iowa physicians and surgeons that we should feel a degree of pride in this appreciation of one of our members who has earned distinguished recognition, for the work done in standardizing medical examinations. It will be remembered that within two years an exchange of national examination boards between this country, England and France has been made, with results highly gratifying to the physicians of the United States. It particularly shows that we quickly rise to any standard of progress that may be pointed out.

ROYAL COLLEGE OF PHYSICIANS

Edinburgh, November 3, 1921.

Dr. Walter Lawrence Bierring,
Care Equitable Building,
Des Moines, Iowa,
U. S. A.

Dear Sir:

I have the honor to inform you that the Royal College of Physicians of Edinburgh, at an extraordinary meeting held on November 1, unanimously resolved to offer you the honorary membership of the college.

This offer of honorary membership has been made by the college to mark its sense of your distinguished services in connection with reciprocity between your country and ours in matters of medical education and I hope to hear from you that you are willing to accept it.

I am,

Yours faithfully,
J. S. FOWLER, M.D.,
Fellow and Secretary.

SIR ROBERT JONES

Sir Robert Jones of London, England, was awarded the honorary degree of doctor of science by Harvard University at its commencement on June 23, 1921.

The Journal of the Iowa State Medical Society

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AMERICAN COLLEGE OF SURGEONS AND THE CLINICAL CONGRESS

The American College of Surgeons met in Philadelphia October 24-28. The registration exceeded 2500 Fellows and 719 new Fellows were admitted. The clinics were well arranged and abundant. The afternoon and evening addresses and discussions held in the ball room of the Bellevue-Stratford were well attended. On Tuesday evening, Judge Moore presented a report on the part of the committee on the Gorgas Memorial to be erected at Panama in the form of a research institution for tropical diseases.

From many sources the influence of the college was emphasized in standardizing surgery, the bringing about of better conditions in hospitals and its contributions to medicine as a whole. The feeling of antagonism which for the first few years existed in the minds of many men in the medical profession has disappeared. Through committees the gathering of data tending to settle many important questions in relation to surgery, surgical pathology and treatment is possible.

Officers elected: President, Dr. Harvey Cushing, Boston; first vice-president, Dr. Henry Sherck, Pasadena, California; second vice-president, Dr. Geo. P. Miller, Philadelphia. Board of regents: Dr. Daniel F. Jones, Boston (new member); Dr. Geo. W. Crile, Cleveland; Dr. Alexander Primrose, Toronto; Dr. Albert J. Ochsner, Chicago; Dr. George E. de Schweinitz, Philadelphia.

The Convocation was held Friday night October 28; invocation by Cardinal Dougherty, Archbishop of Philadelphia. Dr. Harvey Cushing introduced the delegation from the Royal College of Surgeons of Ireland, who attended the Congress in order to confer honorary degrees on Dr. George E. Brewer of New York; Dr. W. J. Mayo, Dr. C. H. Mayo, Rochester, Minnesota; Dr. A. J. Oschner, Chicago; Dr. W. W. Keen, Philadelphia; Dr. Richard Hart, Philadelphia; Dr. Geo. W. Crile, Cleveland, and Dr. John M. T. Finney, Baltimore. The 1922 meeting will be held in Boston.

An additional fund will be raised for a new building on the grounds now owned by the college for research purposes. About \$50,000 was immediately subscribed in sums from \$5,000 to \$100, the remaining \$150,000 to be raised by later subscriptions, \$300,000 to be subscribed by citizens of Chicago.

Referring to the report of the Secretary-General of the American College of Surgeons it will be found that 74 per cent of the hospitals of 100 beds or more are on the approved list.

The list of approved hospitals in Iowa is as follows: Finley Hospital, Dubuque; Iowa Lutheran Hospital, Des Moines; Jennie Edmundson Hospital, Council Bluffs; Mercy Hospital, Council Bluffs; Mercy Hospital, Davenport; Mercy Hospital, Des Moines; St. Francis Hospital, Waterloo; St. Joseph's Mercy Hospital, Dubuque; St. Joseph's Mercy Hospital, Sioux City; St. Vincent's Hospital, Sioux City; University Hospital, Iowa City.

There are about 854 general hospitals of from 50 to 100 beds, of which 704 have been visited; 174 or about 25 per cent of the total number met the minimum standard.

It is possible that certain hospitals and certain groups of physicians can afford to disregard the minimum standards, but laymen may make inquiries. It often happens that in this age of change and migration, provident families may seek the advice of their home physician, as to physician or hospital to accept, or to avoid in their new home, a reference to the records will show the standardized hospitals.

IOWA STATE UNIVERSITY NEWS NOTES

Dr. Don M. Griswold

Major Titus of the U. S. Army Medical Corps, has established a unit of the enlisted men's reserve corps, medical section, among the under-graduate students of the medical college. The members of this unit will receive two hours of theoretical training in mili-

tary medicine during the school year and will assemble for two weeks at a military camp with like units from the leading medical colleges in other states. Enrollment is entirely optional with the students, but many are taking advantage of the training because of the summer camp and the fact that they will be eligible to appointment in the Officers' Reserve Corps immediately on their graduation.

Dr. Henrietta Calhoun, for several years assistant professor of bacteriology and pathology, has resigned her connection to take a position as pathologist at the Rockford Hospital, Rockford, Illinois.

Miss Haarer, superintendent, training school for nurses, University Hospital, presented a paper "Nursing Activities in Iowa" before the Illinois State Nurses' Association at the recent meeting at Quincy.

Doctors Morgan and Lowery of the State Psychopathic Hospital, are engaged in making a survey of the mental capacity of the children of the State Juvenile Home at Toledo.

Professor E. O. Bartow, head of the department of chemistry, gave the opening address before the Minnesota section of the American Water Works Association, November 4, 1921.

The eighteenth annual meeting of the Iowa State Nurses Association, was held in Iowa City, November 1 to 3 inclusive. The outline of the program is as follows:

Tuesday, November 1, 8-12, registration of members and visitors.

10 A. M.—Opening session. Address of Welcome by President Jessup.

2:00 P. M.—Address by Miss Haarer, President Iowa State Nurses' Association.

4:00 P. M.—Trip to University Hospitals and auto ride.

7:30 P. M.—Musical Program, Professor P. G. Clapp.

8:00 P. M.—Address, "Women in History," Arthur M. Schlesinger.

Wednesday, November 2, 9:00 A. M., General Business Session.

10:00 A. M.—Symposium on Education of Nurses.

2:00 P. M.—Clinic. Surgical Ampitheatre, by Dr. Arthur Steindler, Professor of Orthopedic, University of Iowa and Demonstration by Nurses in training.

4:30 P. M.—Tea at the Nurses' Home.

7:30 P. M.—Musical Program, Professor P. G. Clapp.

8:00 A. M.—Address, Control of Communicable Diseases, Dr. Don M. Griswold, State Epidemiologist.

Thursday, November 3, 9:00 A. M.—Round Table Discussion of the various specialties of Nursing.

10:30 P. M.—Address, Purpose and Program of

the Psychopathic Hospital, Dr. Samuel T. Orton, Director.

1:30 P. M.—General Session.

The meeting of the school of nurses' section of the State Teachers' Association held a very enthusiastic meeting in Des Moines, November 3, 4 and 5, which was well attended and bids fair to become a very useful section of the educators' annual meeting.

Dr. Merle French, assistant state epidemiologist, has recently undertaken some very important work for several state institutions in regard to the control of diphtheria. Dr. French was called to the Iowa Soldier's Orphans' Home at Davenport to investigate the diphtheria situation which prevailed there. The outcome of the investigation was that all the children in the institution have been given the Schick test to determine their susceptibility or immunity to diphtheria and those who have been found to be susceptible were given the toxin-antitoxin immunization. It is felt by those in control that this will probably eliminate diphtheria from the institution and will be a great factor in protecting the health of the inmates.

Since completing this work the board of control have asked for a similar service at two other state institutions, where demonstrations can be carried on, on even a larger scale as to the prophylactic value of these two measures.

The psychopathic hospital is expected to open one ward in each pavilion of their new building, December 1st.

On Monday, October 31, a meeting was held of the Iowa Section of the American Red Cross Nurses Association at the Methodist Episcopal Church in Iowa City.

Professor Dunlap of the college of engineering, and Professor Hinman of the State Board of Health Laboratory, attended the meeting of the Sewage Disposal Conference at Ames, Iowa, October 26-28.

The marriage is announced of Dr. Edward D. Middleton of Davenport to Miss Nora Seccombe of Petersborough, New Hampshire, October 20. Dr. Middleton is a graduate of the medical school, 1904.

The third annual report of the American College of Surgeons places the State University Hospital on its "approved list." The survey was made by a personal visit to every hospital in the United States and Canada of more than 100 beds and the local hospital was described as being in the "front rank."

Dr. Mark F. Boyd, formerly head of the department of hygiene and state epidemiologist, has recently been appointed a member of the International Health Board, and will sail for Brazil to carry on

malaria prevention work there. Since leaving Iowa, Dr. Boyd has been professor of bacteriology and hygiene, University of Texas.

Dr. Mary K. Heard, formerly in the department of ophthalmology, otology and laryngology and who has practiced medicine in Iowa City for the past twenty-four years, has moved her offices from Iowa City to the Kraft building, Seventh and Walnut streets, Des Moines. Dr. Heard was president of the University Club, chairman of the local chapter of the American Red Cross, and an energetic worker in all that pertained to the welfare of the community.

100,000 COPIES

The January issue of the Medical Review of Reviews is to be sent as a New Year's gift to practically every physician in the United States and Canada. This issue will be one of the most valuable which has ever been prepared and we trust that the physicians who receive this number will read it with interest and profit.

We congratulate the Medical Review of Reviews on this progressive move and trust they will meet with success in a great undertaking.

SOCIETY PROCEEDINGS

Benton County Medical Society

At the regular meeting of the Benton County Medical Society at Van Horne, October 7, the following officers were elected for the ensuing year: Dr. G. M. Luckey, Vinton, president; Dr. Geo. Wagner, Van Horne, vice-president; Dr. G. R. Woodhouse, Vinton, secretary-treasurer; Drs. J. E. Luckey and C. J. Snitky, delegates.

G. R. W., Sec'y.

Boone and Story County Medical Societies

A joint session of the Boone and Story County Medical Societies was held at Nic-O-Let Park, Boone, September 23, Story County Medical Society being the guest of Boone County Medical Society.

A feature of the meeting was an address by Dr. Arthur Steindler of Iowa City on the Organization of the Orthopedic Service at the Iowa State Hospital.

Calhoun County Medical Society

The Calhoun County Medical Society met at the Community Memorial Building, Lake City, Iowa, Thursday, October 20, at 5:45 p. m. A banquet was served at six o'clock. At the beginning of the banquet, the local committee of the Lake City physicians extended a hearty welcome to the visiting M.D.'s, and assured them that the building, the program, and the city were all theirs for the evening, that most anything went, and no one would get in jail, as this little city boasted no such institution. It also called their attention to a little matter which did not appear upon the program, and that was, that the ladies of the Lake City Civic Improvement So-

cietiy were serving the banquet, and that it was this organization in which originated the idea of erecting this community memorial building in which the evening was being spent, and that this community spirit idea these ladies had in mind, was the spirit doctors should cultivate more among themselves.

All physicians of Sac, Carroll and Calhoun counties were invited to the meeting.

The following program was followed out after the banquet.

"Scarlet Fever," Dr. T. B. Herrick, Manson. Discussion opened by Dr. S. D. Martin, president of the Carroll County Medical Society, Carroll. "Our Common Deficiencies," Dr. L. H. Jones, Wall Lake. Discussion opened by Dr. W. J. Findley, secretary of the Sac County Medical Society, Sac City. "Diagnosis of Epidemic Encephalitis." Dr. C. G. Field, Ft. Dodge. Discussion opened by Dr. A. Groman, Odebolt.

A general discussion followed the opening of each subject. The quarantine feature of scarlet fever elicited great interest, as several present fill the position of health officer in their respective communities, and many others had held that unenviable place.

One regrettable feature of the evening was the absence of one of the older physicians of the county, Dr. D. W. McCrary of Lake City, who was prevented from being present on account of illness.

The following forty-three physicians were present: L. G. Patty, A. R. Anneberg, R. D. Anneberg, S. D. Martin, F. V. Hibbs, C. C. Bowie, I. S. Buzard, and W. L. McConkie, of Carroll; W. J. Findley, G. N. Swearingen, and C. B. Adams, of Sac City; A. Groman and Jas. McAllister, of Odebolt; F. H. McCray and T. J. Andre, of Schaller; L. W. Little of Nemaha; E. E. Speaker of Lake View; H. L. Fobes, Auburn; L. H. Jones and A. S. Hayden, Wall Lake; C. C. Keppler, Glidden; J. H. Wells, Lanesboro; C. W. Wyatt and R. R. Williams, Manning; C. G. Field, Ft. Dodge; F. L. Blair, Lytton; C. D. Parsons, Vincent; E. S. Parker, Ida Grove; Lena A. Beach, A. C. Norton, J. M. Cooper, L. E. Eslick, J. N. Hoit and P. W. VanMeter, Rockwell City; T. B. Herrick and Robt. C. Henricks, Manson; W. W. Weber, Pomeroy; Thos. H. Van Camp, Somers; D. J. Townsend and J. W. Craig, Lohrville; M. J. McVay, W. E. McCrary and F. E. Kauffman, Lake City.

Dr. D. J. Townsend.

Calhoun County Medical Society

The September meeting of the Calhoun County Medical Society was held September 15, in Lohrville, at the home of Dr. D. J. Townsend.

Lohrville and Dr. Townsend are to be congratulated over this meeting, as it came the nearest to having the complete membership of the organization present of any meeting in the many years of its history.

The following program was carried out: Paper, Purpura Hemorrhagica, Dr. W. E. McCrary, Lake City. Paper, Differential Diagnosis of Gall-Bladder Trouble, Dr. Evans, Fort Dodge, Iowa.

The papers read and the discussions would do credit to any medical organization.

After the program, Mrs. Townsend and Mrs. Farlow served hot coffee and lunch, which every doctor present enjoyed thoroughly, and voted unanimously their hearty thanks to doctor and his wife. Every one present went home feeling he had spent a very profitable and pleasant afternoon.

The following physicians were present: D. J. Townsend, J. W. Craig, A. R. Isenberg, Lohrville; A. C. Norton, Lena A. Beach, J. M. Cooper, L. E. Eslick, and P. W. VanMetre, Rockwell City; Dr. Farlow, Farnhamville; A. B. Carstensen, Jolly; T. B. Herrick and Robt. C. Henricks, Manson; Chas. I. Taylor and W. W. Weber, Pomeroy; M. J. McVay, W. E. McCrary and F. E. Kauffman, Lake City.

D. J. Townsend.

Cass County Medical Society

A general meeting of the Cass County Medical Society was held at the Calumet Cafe, Atlantic, November 2, 1921, at 6:30 P. M. The meeting was opened with a banquet at which were present the doctors' wives, the matron and assistant, matron from Atlantic Hospital and an oversea nurse. Mr. Rodgers of the News-Telegraph was also present as a guest. The ladies were called upon for toasts at the conclusion of the dinner. Presiding as toastmaster was Dr. R. L. Barnett of Atlantic. The toasts were in more or less of a humorous vein. Mrs. Dr. C. L. Campbell of Atlantic gave the opening toast entitled "How I manage my husband;" Mrs. Dr. R. A. Becker of Atlantic gave a talk on "What I would do if I were in my husband's place;" Mrs. W. S. Greenleaf of Atlantic told of "My husband's habits;" "Am Sorry I Married a Doctor" was the toast given by Mrs. Dr. H. E. Campbell of Anita; Mrs. Dr. A. E. Gibson told "Why I made my husband quit practice;" Mrs. Dr. James Maynard of Adair answered the question, "Should a Doctor's Wife be a Business Woman?"; Mrs. Dr. W. F. Graham, of Atlantic was asked to tell "How I bridle my feeling when my husband is called upon to treat the Osteopath," (was changed to the ultra-fashionable by Mrs. Graham).

Following the banquet and entertainment program the physicians, wives and their guests were entertained at a theatre party at the opera house. The physicians held a brief business session which was followed by the reading and discussion of papers.

Report of Case, Dr. W. F. Graham, Atlantic. Complications of Hernia, Dr. C. L. Campbell, Atlantic. Simple Glaucoma, Dr. Earl C. Montgomery, Atlantic. Dr. R. L. Barnett, president of the society was unusually happy in calling for the various toasts. The ladies who responded to the toasts did exceedingly well, especially Mrs. Dr. C. L. Campbell, and Mrs. Dr. R. A. Becker who spoke extempore, which partially accounted, no doubt, for their success.

M. F. Stults, Secretary.

Hardin County Medical Society

The Hardin County Medical Society met in the Grand Theatre at Eldora, October 18. Dr. O. C. Morrison of Carroll, spoke on Relation of Bacteria to Formation of Stones Within Our Bodies; Dr. Frank Becht, professor of physiology in Northwestern University, gave a talk on Ductless Glands, and Dr. Sumner L. Koch, instructor of surgery in Northwestern University, spoke on Modern Methods of Treating Fractures.

The newly elected officers were as follows: President, Dr. W. H. Van Tiger of Eldora; vice-president, Dr. C. C. Cady of Alden; secretary, Dr. W. E. Marsh of Eldora; treasurer, Dr. C. M. Wray of Iowa Falls.

The next meeting of the society will be held at Ackley in June.

Iowa County Medical Society

The Iowa County Medical Society held their twenty-first annual meeting at the public library October 12. Papers were read by Dr. C. F. Watts of Williamsburg and Dr. J. L. Augustine of Ladora.

The following officers were elected for the ensuing year: President, C. F. Watts; vice-president, E. N. Brown; secretary-treasurer, L. S. Dietrich. Members of board of censors: W. P. Hutchins, and A. C. Moon. Dr. Barclay J. Moon of Williamsburg was elected to membership in the society.

Visiting members of the profession were Drs. Seiler and Winsell of Blainstown, Busch of Van Horne, and Snitkey of Belle Plaine. Members present were Drs. Amick of Ladora, Moershel & Moershel of Homestead, Moon, Moon & Watts of Williamsburg and Blossom, Brown, Dietrich and Hutchins of Marengo. Dinner was served at the Eby cafe after the meeting.

Jackson County Medical Society

The Jackson County Medical Society held their October meeting in Bellevue on Tuesday, October 25. Despite the muddy roads a fair crowd attended.

At 12:30 o'clock lunch was served at Weck's Hotel after which the members assembled at Masonic hall where the following program was rendered:

Paper—Anterior Poliomyelitis, Dr. Joseph J. Rowen, Dubuque, Iowa.

Paper—Duties of the Public Health Nurse as to School Work, Miss C. Cushman, public health nurse of Jackson county.

Talk—Public Health, Dr. D. N. Loose, Maquoketa.

Talk—Dr. James R. Guthrie, Dubuque.

Dr. Rowen's paper was fully discussed and many points of interest were brought to notice. As infantile paralysis has occurred recently in some of our neighboring cities, and as early diagnosis and treatment is important in the results obtained in this dreaded disease, much time and consideration was given to this subject.

Jasper County Medical Association

The Jasper County Medical Association met in the Grand Hotel parlors Thursday evening, October 13. Nearly all of the association members were present. Oration on Survey, Dr. John Harp, Prairie City. Orthopedic Treatment of Anthritis, Dr. Arthur Steindler, Iowa City.

The next meeting of the association will be held at Prairie City sometime in November, the exact date being regulated by the conditions of the roads.

Ringgold County Medical Society

The Ringgold County Medical Society has held two meetings recently; one August 31 and the other October 19. Both meetings were well attended—all of the doctors in Ringgold county were present except two who do not belong to any medical society though eligible for membership. Physicians from Decatur, Union and Taylor counties were present. This society has held five meetings since last May with increasing interest and attendance, and a fine fellowship obtaining. The program of the August 31st meeting was: Modern Surgery, B. L. Eiker, Leon; Duodenal Ulcer, W. B. Hight, Des Moines. At the October 19th meeting, papers were given by E. S. Ballard, St. Joseph, Missouri; Some Problems of Infant Feeding; M. Bannister, Ottumwa, Suppurative Infection of the Urinary Tract; H. S. Forgrave, St. Joseph, Carcinoma of the Uterus; G. N. Ryan, Des Moines, Medical Treatment of Goitre. The papers of both meetings were very interesting and profitable and elicited much discussion. It is the intention to have two or three more such meetings before the unsettled weather and bad roads condition are with us.

S. B., Sec'y.

Scott County Medical Society

A regular meeting of the Scott County Medical Society was held Tuesday evening, November 1, 1921, in the Chamber of Commerce (corner Fourth and Main streets), Davenport, Iowa.

Election of officers for the year 1922. Dinner served at 6:30 p. m. sharp.

Meeting called to order at 8:00 p. m. sharp.

Program: Dr. C. L. Barewald, Varicose Veins, Causes and Treatment.

Dues for 1922 are \$10, which includes membership in the Iowa State Medical Society, Iowa State Medical Journal, medico-legal protection and membership in the Scott County Medical Society for one year. Make checks payable to Dr. S. G. Hands, treasurer, 615 Putnam building, Davenport, Iowa.

For information regarding the services rendered to the physicians in Davenport and surrounding towns by the Professional Exchange and Credit Bureau, call Davenport 2142, ask for Mr. Vannette, who will gladly furnish the desired information.

Members of the society who have read papers before the Society, are requested to send copies to the

secretary, who will forward them to the editor of the Iowa State Medical Journal for publication.

Robert E. Jameson, M.D., Secretary.

Tama County Medical Society

The meeting of the Tama County Medical Society held September 30 at Toledo was one of the best meetings in the history of the society. Dr. Arthur Steindler and Dr. A. H. Byfield of Iowa City and Dr. John H. Peck of Des Moines, were present and held a clinic; thirty-two patients from the county were brought to the clinic. Eighteen physicians and their wives enjoyed the banquet following the meeting at which time Dr. Frank D. Sampson of Creston gave, in his inimitable way, an address on Social Medicine, pointing out to the profession in an agreeable manner their sins of omission and commission. Dr. Sampson is making a good impression along the line of his talk and is a "live wire."

A. A. C., Sec'y.

Taylor County Medical Society

The Taylor County Medical Society held the regular meeting at the Masonic hall in Clearfield, Tuesday, September 20. Dr. W. E. Sanders of Des Moines read a paper on Diagnosis and Treatment of Peptic Ulcers. Dr. Auner of Des Moines held a skin clinic. About twenty patients who were suffering with some skin disease were present.

The following members of the society were there: Dr. Miller, Blockton; Dr. Watson, Diagonal; Dr. Cash and Dr. Hamilton, Lenox; Dr. L. T. Reed and Dr. Clabaugh, Gravity; Dr. McColm, New Market; Dr. Maloy and Dr. Terrell, Bedford; Dr. D. W. Reed and Dr. McCall of Clearfield.

Wayne County Medical Society

The Wayne County Medical Society held a meeting at Humeston recently. Members in attendance were Geo. McCulloch, H. T. Smith, C. M. McGuire, W. G. Walker, B. S. McCoy, A. L. Yocum, R. C. Glich, J. S. Coontz, Jas. W. Robinson, and Dr. Corbin.

Southwestern Medical Society

The minutes of the twenty-eighth annual meeting of the Southwestern Medical Society held at Red Oak, Iowa, September 22, 1921. The meeting was called to order at 10:30 by President Con R. Harken.

Before beginning the regular program, Dr. Byfield conducted a nutritional clinic. The clinic shown, were cases of rickets, and mental retardation.

The first number on the regular program was a paper by Dr. Frank A. Ely; his subject was, Discussion of Mental Standardization; paper discussed by Drs. Witte, Jr., Byfield and Pauline M. Leader. Discussion closed by Dr. Ely.

Next on the program was a paper by Dr. Albert H. Byfield, his subject was, Nutritional Disturbances of Childhood as a Public Health Problem; paper discussed by Drs. Jones, Spillman, Watts, Coontz, Harken and Byfield.

The meeting adjourned to lunch at Griffith Inn.

After the meeting was called to order at 1:15 p. m., Dr. Jeanette T. Throckmorton presented her paper, Educational Phase of Public Health; paper discussed by Drs. Aldrich, Witte Jr., Sampson, Spaulding, and Coughlan. Discussion closed by Dr. Throckmorton.

On account of Dr. Fairchild being physically unable to be present, Dr. F. E. Sampson filled his place on the program and made a very able, illustrated talk, his subject being, The County Medical Society, The Bases of Welfare Work," the paper was discussed by Drs. Throckmorton, Coughlan, Pauline M. Leader, and Harken. The discussion was closed by Dr. F. E. Sampson.

The president appointed Drs. Aldrich, Spillman and Spaulding, as committee on nominations. The committee submitted the following for adoption: R. J. Mathews for president, F. S. Williams, for vice-president and J. S. Coontz, secretary. The motion was adopted.

Motion by Spillman, seconded by Parker, insomuch as Dr. D. S. Fairchild is physically unable to be with us, an expression of sympathy and a wish for his speedy recovery be sent from this society. The motion was unanimously adopted.

Next on the program was Robert L. Parker, who very ably presented the subject, "A Plea for More Rational Therapeutics." Discussed by Sampson and Parker.

Motion by Watts, seconded by Spillman, that a vote of thanks in appreciations of the men who have appeared on the program. The motion was unanimously adopted.

Motion by Sampson, seconded by Reilly, that the papers of Ely, Byfield and Parker be secured and asked for publication in the Iowa State Medical Society. The motion was carried.

HOSPITAL NOTES

Dr. C. H. Mayo in Pictorial Review:

"Mind you, I don't blame the nurses of the country for organizing. They were driven to it because of the apparent deafness of those in authority. But they have carried their methods too far and with too high a hand, and in doing this, have defeated their own purpose, for they have lost sight of the real impulse of their profession—the alleviation of the pain of the world. Too great a commercialization of their services is making proper care of the sick impossible for those in moderate circumstances. In addition, their demands as to hours and regulations cannot be met in hospitals if the hospitals are to maintain their high standards of service.

"This trouble can be met by the training of country girls as sub-nurses, with a course of eighteen months or two years and pre-educational requirements of a year or two in high school. The educational standards for registration of nurses as set down by the nursing boards of the various states have gone beyond all reason. Any intelligent girl can acquire in two years all the knowledge necessary for the thor-

oughly competent nurse. I know that in my work I never have to ask any nurse to do anything which she could not have learned how to do in two years' training."

Returning to the question of the professional nurse Dr. Mayo says in his article:

"When her period of training is over she should step into her profession with the same high impulse. She should expect fair wages, a chance to enjoy freely the best that life has to give and the acknowledgment by the public mind of the dignity and distinction of her place in society. But she must not become exorbitant—and this is the threat which looms not a comfortable distance away. Seven dollars a day for an eight-hour day is more than exorbitant; it is prohibitive. It means that in cases of dangerous disease, where constant skilled care and watching are necessary to save the life of the patients, three nurses must be employed at a daily cost of \$21 a day. How, I ask, can the man and woman of average means afford to pay such charges? They can not do it. Neither can the hospitals if they wish to keep open their doors.

"As things are now, in the larger cities of the East only the very rich or the very poor can receive proper treatment and care for their sick. The very rich can pay for it; the very poor get the best of care for nothing. The most skillful surgeons and physicians are always to be found on the staffs of charity hospitals. Out of this a great danger threatens. If the present prohibitive cost of sickness for the middle-class man continues, he will be driven to pauperize himself, and nothing is so disintegrating to business integrity as pauperization."

Davenport Hospital, organized in 1908 by Mrs. C. E. Glynn and J. S. Weber, will be taken over by the Methodist church, according to a resolution passed on the floor of the Upper Iowa Conference at this morning's session, October 3, shortly before the conference was officially closed.

Waterloo was selected as the meeting place for the 1922 conference of the Iowa Catholic Hospital Association at the concluding meeting of the conference at Mercy Hospital, Cedar Rapids, by unanimous vote of the sisters in attendance. October 20 and 21 were the dates named:

Officers elected at the final meeting were as follows: Sister Mary Cephas of Mercy Hospital, Cedar Rapids, president; Sister Mary Bernadotte of Waterloo, first vice-president; Sister Mary Genevieve of Ottumwa, second vice-president; Sister Mary Loretta of Sioux City, third vice-president, and Sister Mary Aquinas of Davenport, secretary and treasurer.

The regular meeting of the directors of the Henry County Hospital was held at the temporary office of the superintendent at the court house.

The report of the finance committee relative to salaries and service fees was adopted. The following were the salaries of help as fixed by the board. Day

nurses per month \$85 and maintenance. Night nurses per month \$90 and maintenance. Janitor per month \$80 and room and board. Cook per month \$40 and room and board. Kitchen maid per week \$9 and board. Floor maids per week \$10 and board. The nurses and janitor and cook will live in the hospital but the maids will be obliged to have room outside of the building. Rooms \$3 to \$4.50 per day. Operating room \$5 to \$12.

PERSONAL MENTION

Dr. H. L. McPherrin of Perry has sold his good will and practice to Dr. Elvidge, a graduate of the University of Minnesota.

Dr. A. M. Purvis, a graduate from the Northwestern University College of Medicine and an interne Michael Reese Hospital two years, has located in the Miller building, Cedar Rapids.

Dr. Harry Schoot of Sioux City after ten years' practice in his native city has removed to Los Angeles, California, where he will specialize in orthopedics.

Dr. Geo. Kessel of Cresco is preparing to build a clinic or doctors' office building at a cost of about \$50,000. There will be about twenty rooms on the two floors, not including the basement. The arrangement will include doctors' offices, operating room, rest room, lobbies, bookkeepers' office, etc.

Dr. B. B. Keonard of Correctionville has purchased the office and equipment of Dr. W. L. Stillman of Holstein.

Dr. Elenaor Hutchinson and Dr. and Mrs. M. N. Voldeng will be dinner hosts at the home of the latter, "The Meadows," in Woodward, Iowa, to members of the Des Moines Women's Medical Society. Those in the party will be: Dr. Ella Gray, Dr. Alice Humphrey Hatch, Dr. Nelle Noble, Dr. Lenna Meanes, Dr. Helen Johnston, Dr. Mae Habenicht, Dr. Margaret Nelson, Dr. Hurd, Dr. Grace Doane, and Mrs. Anna Glomset, Miss Mary Rosemond and Miss Blanche Wingate will also be guests.

Dr. Leon Monier of Paris, medical adviser to the president of France, who spent two days in Des Moines as the guest of Dr. Walter L. Bierring, was the guest of honor at an informal "at home" given by Dr. and Mrs. Bierring at their home on Forest drive. The honored guest is a surgeon, devoting his time to face and oral surgery, and during the war period gained recognition for his marvelous work making new faces for maimed soldiers. During the early part of the war, Dr. Monier was a regimental surgeon, for which service he received the regimental legion of decoration. During America's participation in the war, Dr. Monier served as liaison officer between the two armies and was in charge of hospitals for the American Expeditionary Forces in Paris. This meant providing hospitals for Americans, much tact and diplomacy being required, since it took the space from the French. For this service Dr. Monier received the distinguished service medal from General Bierring. While in France on official business

Dr. Bierring met Dr. Monier, who obtained for the local surgeon recognition at official headquarters. Since that time a close friendship has grown up between the two men. Dr. Monier, who is in the United States on a scientific mission, will leave this evening and sail within a week for France, after visiting for six weeks the larger medical centers of the country. At the tea which was attended by about seventy-five of the prominent physicians and dentists of the city, Mrs. Bierring was assisted by Mesdames Oliver J. Fay, Howard Gray, Eli Grimes, L. K. Meredith, Lee Hill, M. L. Turner and Meredith Mallory.

Dr. N. C. Stam, resident urological surgeon at the Cook County Hospital for the past three years and a graduate of Rush Medical College who served his internship at the Cook County Hospital, arrived in Mason City for service in Park Hospital Clinic. He will head the department of urology there.

Dr. Thomas Bess has been appointed to succeed Dr. Austin Philpott as surgeon at the Iowa state prison at Fort Madison, following the resignation of Dr. Philpott. Dr. Bess will take up his duties at the institution today.

Dr. Philpott resigns the position at the prison following twenty years' service. His resignation is due to ill health. He expects to leave for California where he will spend the winter.

Dr. J. M. Martin of Sioux City, who is spending a year in Eastern medical centers, specializing in children's disease, has finished at the Boston floating hospital and now is on the interne staff of the hospital for infection in New York.

Dr. F. S. Smith and wife, who were disappointed at being unable to return to their mission labors in Turkey because of unsettled conditions in that country, are soon to return to the Philippines. They will depart for that place some time next month. Dr. Smith spent a couple of years in the Philippines after he was compelled to leave Turkey during the war.

OBITUARY

Dr. B. F. Carmichael, for many years a prominent physician of Davenport, died at his home, 118 East Thirteenth street, October 8, at 11 o'clock, following a long illness. He had been confined to his bed for over a year and for many years prior to that time had been retired from practice on account of poor health. He had suffered a stroke of apoplexy some time ago and blood poison set in a few days ago.

Dr. Carmichael was born in Corning, New York, March 15, 1851, the son of Benjamin F. and Elizabeth Elliott Carmichael. When he was a small baby, the family came to Davenport, his father being the contractor who built what is now the Rock Island road between Davenport and Iowa City. He received his early education in Davenport schools and in the East where the family lived later for a few years. Returning to Davenport he studied at Griswold College and later graduated from the medical department of the Iowa State University in the class of 1873. He spent two years following in Europe study-

ing at several of the German universities and at Edinburgh, Scotland.

He engaged in the practice of medicine in Davenport in 1875 with the late Dr. W. F. Peck, with whom he was associated for five years. After that he practiced alone until he retired.

Dr. Morris Bachman died at his home in Lake Park, Iowa, October 2, 1921, aged fifty-four years. Dr. Bachman was taken sick early in May with cardio-renal insufficiency and severe attacks of angina pectoris. Though his health failed rapidly, his death came as rather a shock to the community. After nearly five months of at time severe suffering, he slept quietly away.

Dr. Bachman was born in Philadelphia, April 18, 1867. He was a graduate of Iowa State University in 1900 and had been actively engaged in the practice of medicine in Iowa until a few months before his death.

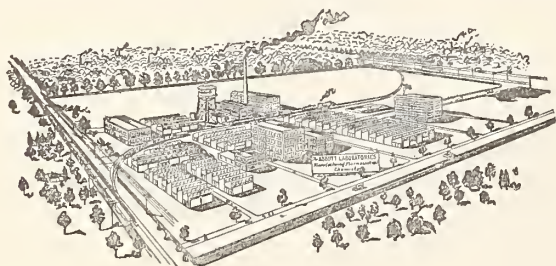
He had been located at Lake Park for fourteen years.

Dr. John Dill Wolf of Mt. Vernon died at Mercy Hospital, Cedar Rapids, October 4, 1921, following an operation for appendicitis. Dr. Wolf was born September 23, 1861. He was a graduate of the Iowa State University, C. E., 1866, B.S., 1888, M.A. and M.D., 1889.

NEW LABORATORIES FOR ABBOTT'S

A substantial group of eight concrete buildings in North Chicago looms as evidence of the growth that is said to follow true service.

When the war cut off the import of medicinal chemicals used quite generally by physicians in this country, The Abbott Laboratories were among the



first to provide for the urgent home demands. Such drugs as Barbitol, Procaine and Cinchophen were produced in this period by its chemists under license from the Federal Trade Commission. Since that time there has been a continuously increasing demand for these and other high grade synthetics, under the Abbott label, necessitating an enlargement of manufacturing space and facilities.

Along with this, the research department of the firm is being enlarged and valuable new agents for the physician's use are being developed.

The executive offices of The Abbott Laboratories will be maintained at 4739-53 Ravenswood Ave., Chicago.

REPORT OF COMMITTEE ON ARRANGEMENTS, DES MOINES SESSION, 1921

Receipts

Exhibitors, balance from 1920.....	\$	85.00	
Exhibitors		970.00	
Banquet tickets		357.00	
			\$1,412.00
Deficit	\$	17.35	\$1,429.35

Disbursements

Hotel Fort Des Moines.....	\$	150.00	
Hotel Fort Des Moines banquet, 378 plates		941.00	
Music—orchestra		20.00	
Music—harpist		17.00	
Music—soloists (3)		50.00	
Music—quartette		25.00	
Dancers		35.00	
Vaudeville		75.00	
Flowers		15.00	
Cigars and cigarettes.....		62.25	
Messengers		10.00	
Ticket seller, tickets and sign.....		6.85	
E. J. Kelley, attorney, fees for col- lecting 1920 balance.....		15.00	
Telephone, stationery and stamps		3.00	
Incidentals		4.25	\$1,429.35

Respectfully submitted,
Thos. F. Duhigg,
Chairman Arrangement Com.

BOOK REVIEWS

SURGERY, ITS PRINCIPLES AND PRACTICE

By Various Authors. Edited by William W. Keen, M.D., L.L.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume Eight, with 657 Illustrations, 12 of Them in Colors. W. B. Saunders Company, 1921.

This magnificent work will always remain a monument to American surgery. The editor and publishers have recognized the importance of following in the path of surgery as it has advanced step by step from the time of the appearance of the first volumes to the present, therefore Keen's Surgery has never been out of date. The first volumes were filled with the contributions of the foremost men in surgery and the same has been true with each succeeding volume. The possessor of all the eight volumes has on his shelves a complete library of modern surgery. It would be quite impossible to consider each chapter in detail and it only remains for us to consider the work in general. Volume seven being devoted largely to military surgery gave us an opportunity to review in detail a subject almost new in surgery. With volume eight we have a continuation of the

principles and practice of surgery in civil life which brings us up to the present day.

In chapter 34 we have before us an exhaustive study of Craniocerebral War Wounds by Dr. Herold Neuhoof of New York, and in chapter 35 the Surgery of the Fifth (Trigimimal) nerve by that master of this branch of surgery, Dr. Frazier. Chapter 37, War Wounds of the Face and Jaws, by Dr. Richard H. Hart and Dr. Walter E. Lee. These chapters are of particular interest and entitled to much consideration.

THE PRINCIPLES OF THERAPEUTICS

By Oliver T. Osborn, M.D., Professor of Therapeutics, Department of Medicine, Yale University. Octavo of 881 Pages. W. B. Saunders Company, 1921. Cloth \$7.00 Net.

The most difficult branch of medicine today is therapeutics. The commercial supply houses have to such an extent made up popular prescriptions that a large percentage of physicians rely on the commercial representative of such houses for information as to popular preparations, much in the line of the "best sellers." However, medicine has not altogether dropped to the level of a trade, and there is probably a larger proportion than we suppose who are seeking for reliable information as to agents in the treatment of disease. Our medical schools are maintaining departments of therapeutics and are diligently impressing on the minds of students the importance of treating disease by medical agents.

Dr. Osborn has written an attractive book for physicians and students. The first three parts are devoted to prescription writing and to a list of valuable drugs. Part four to the endocrine glands and organotherapy. Part five to practical therapeutic measures. Part six, vaccines and serums. Part seven, foods and diets. Part eighth, general physical measures. Part nine and ten to poisons, and part eleven to the treatment of emergencies.

The ground occupied by therapeutics is being extended so rapidly, particularly in the direction of organotherapy and serums and vaccines, that new books are demanded if we are to keep in close touch with the means of scientific treatment and to accurately evaluate remedies placed on the market.

THE ASSESSMENT OF PHYSICAL FITNESS

By Correlation of Vital Capacity and Certain Measurements of the Body. By Georges Dreyer, C.B.E., M.A., M.D., Fellow of Lincoln College, Professor of Pathology in the University of Oxford. In Collaboration with George Fulford Hanson. With a Foreword by Charles H. Mayo, M.D., Rochester, Minn. Cloth, Pp. 128, with XXIV Tables. Price \$3.50 Net, New York: Paul B. Hoeber.

This is a book that should command the attention of all physicians who are interested in industrial medicine, actuaries of insurance companies, public health nurses and settlement workers, for the reason that unlike most books on the same lines, the author

contends that the occupation of the individual plays a large part in his physical dimensions.

In the past, insurance companies have had hard-and-fast rules as to what the physical dimensions should be to make the applicant acceptable irrespective of his occupation, and the same remark applies to all those investigators of physical fitness who have followed the matter with more or less interest. Dr. Dreyer divides all workers into three classes and shows the differences in the physical measurements between Class A and Class B—men who have undergone prolonged physical training, or have an occupation which leads to muscular development, and men of the professional and business classes. Class C contains those who lead an extremely sedentary life, which it can readily be understood makes for a greater degree of under-development than would obtain among those of Class A or B. Hence the new note in a book on physical fitness and one that is inclusive of matters which have been overlooked by other authors, and on account of their neglect have given a one-sided account of the matter.

ROENTGEN INTERPRETATION

A Manual for Students and Practitioners, by George W. Holmes, M.D., Roentgenologist to the Massachusetts General Hospital and Instructor in Roentgenology, Harvard Medical School and Howard E. Ruggles, M.D., Roentgenologist to the University of California Medical School. Second Edition, Thoroughly Revised, Illustrated with 184 Engravings. Lea and Febiger, Philadelphia, New York, 1921. Price \$3.25.

We doubt the wisdom of the physician and surgeon becoming his own roentgenologist unless circumstances demand it. Roentgenology is a highly developed specialty and requires a high degree of special training if we are to escape the dangers which lie in the way. Furthermore, the plates to be of value, must be executed with great skill. While we believe that x-ray work should be in the hands of trained specialists, the physician or surgeon should to a certain extent study interpretation and be qualified to determine with a considerable degree of certainty what the plate reveals, otherwise he is liable to fall into serious error. The book presented, is one that should be in the possession of every practitioner who proposes to be guided by x-ray revelation in his practice. In the study of fracture and dislocations not only do we consider the relations of the bones but also the condition of the bone itself, that is, bone pathology as in osteomyelitis, necrosis, tuberculosis, syphilis, sarcoma, etc. Also diseases of nutrition of bone and trophic changes. There is to be found many cases of calcified deposits, hypotrophic spurs, and other bone changes to be considered. These bone changes are well illustrated and should be recognized by the surgeon who will before rendering an opinion, plan his own interpretation on the plates. The authors also consider the chest includ-

ing lung fields, heart and blood-vessels, stomach, intestines and kidneys.

The book is limited as we believe it should be, to interpretation for the physician and surgeon while the technic of roentgenology goes to the expert technician.

PRACTICE OF MEDICINE

A Manual for Students and Practitioners.
By Hughes Dayton, M.D., New York. Fourth
Revised Edition, Lea and Febiger, 1921.

This is a convenient manual for ready reference and may be carried in one's pocket to meet certain exigences of practice when reference to a larger book would be inconvenient or impracticable.

THE HAND-BOOK OF ELECTRO-THERAPY

By Burton Baker Grover, M.D., Published
by the F. A. Davis Company, Philadelphia,
Pennsylvania.

This book is a very interesting, comprehensive, and practical treatise on electricity in its application for the relief of disease. While there may be just ground for questioning the efficacy of some of the forms of treatment laid down in this text, it is nevertheless evident that the author has made a sincere effort to place the whole subject of electro-therapy on a physiological and rational basis.

The concise manner in which the author has dealt with the technical construction of the various electro-therapeutic mechanisms makes the work of considerable value, even without its therapeutic hints.

F. A. Ely.

REPORT OF THE WORKMEN'S COMPENSATION SERVICE

For the Biennial Period Ending June 30,
1920. A. B. Funk, Industrial Commissioner.
Published by the State of Iowa, Des Moines.

The interest of the medical profession in some of the features of workmen's compensation warrants a brief review of this report. The period of operation in the United States of nine years and in Iowa for six years permits the commissioner to entertain definite views of the merit of the commission plan of adjusting claims for personal injuries, only five states have failed to inaugurate the plan and in no state has the workmen's compensation law been repealed. That the plan seems to have operated satisfactorily is shown by the small number of cases of appeal to the courts.

At first the medical profession looked upon workmen's compensation with suspicion, and justly, for the important part that medicine and surgery played in the operation of the law warranted some recognition of the medical profession from the first, but the profession was absolutely ignored and the matter of compensation fixed in a most arbitrary manner, in fact the condition was such that the better class of practitioners could not afford to accept such service

and there was great danger that the injured workman would get inferior service. It was not the generosity of the state that averted the danger but rather the good business sense of liability companies, and the tact of the commissioner together with the generous spirit of the profession. The maximum period of two weeks and the maximum fee of \$100, in any case was increased by the Thirty-eighth General Assembly to \$200 in extraordinary cases which cannot be considered adequate and is only accepted in the hope of better treatment in the future. A much better plan would be to award a reasonable fee based on the merits of the case and would lessen the tendency to pad bills in minor cases to compensate for loss in the extraordinary cases. The legal compensation is at best much less than the wages of a day laborer.

The commissioner makes an important recommendation in reducing the waiting period to one week. In our experience the two weeks waiting period is the greatest cause of complaint and deprives the workman on one week of compensation that he is clearly entitled to.

THE AMERICAN RED CROSS WORK AMONG THE FRENCH PEOPLE

By Fisher Ames, Jr. Published by the
Macmillan Company, New York City.

The work of the American Red Cross is well known in a general way. But to make the record complete, and to present it to the reading public in an interesting and concise manner, a somewhat detailed outline of the work is published in book form. A similar book has been published on the American Red Cross work in Italy.

These books constitute an important contribution to the history of the war and show the peculiarities of the Italian and French people under the stress of a war which threatened their national identity. The trying conditions under which the Red Cross operated gave an abundant opportunity to study the people of these countries and constitute an important chapter on the history of France and Italy; not only of these people, but also of the American Red Cross itself.

The history of the war, the organization and marching of armies, the fighting of troops, is the one thing with which we are familiar, but the care of non-combatants, wounded and sick soldiers are facts little known to us before this war. The history of France is filled with accounts of conflicts domestic and foreign attended with great distress and suffering, but with little organized attempt to relieve the sufferings incident to war. The most striking fact marking the progress of civilization is the work of the Red Cross and the support given it. The impressive fact in relation to the war was the contributions of science in discovering means of destroying life and we are liable to overlook the contributions of the Red Cross in directing our attention to humanitarian measures and to the history of the more

(Continued on Adv. Page xvi)

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